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MSM Manufacturing Training Package

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Links

Companion Volume Implementation Guides are available at VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=d1287d36-dff4-4e9f-ad2c-9d6270054027

MSM10116 Certificate I in Process Manufacturing

Modification History

Release 2. Imported unit updated to current version. Equivalent

Release 1. Units updated. Supersedes and is equivalent to MSA10207 Certificate I in Process Manufacturing.

Qualification Description

The MSM10116 Certificate I in Process Manufacturing provides the competencies required for entry to the industry and addresses job outcomes at this level. It has been developed as a common certificate for use across the three process manufacturing sectors:

- chemical, hydrocarbons and refining
- plastics, rubber and cablemaking
- manufactured mineral products.

Entry Requirements

There are no entry requirements for this qualification.

Packaging Rules

To be awarded the MSM10116 Certificate I in Process Manufacturing, competency must be achieved in **seven (7)** units of competency:

- **three (3**) core units of competency
- **four (4)** elective units of competency, **two (2)** of which may be selected from this Training Package, other endorsed Training Packages and accredited courses, as specified below.

Core units of competency

Unit code	**Unit title**
MSMSUP100	Apply workplace context to own job
MSMSUP102	Communicate in the workplace
MSMWHS100	Follow WHS procedures
Elective units	

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Unit code	**Unit title**
MSMENV172	Identify and minimise environmental hazards
MSMOPS100	Use equipment
MSMOPS101	Make measurements
MSMOPS102	Perform tasks to support production
MSMSUP101	Clean workplace or equipment
MSMSUP106	Work in a team
MSMWHS110	Follow emergency response procedures
PMAOPS105	Select and prepare materials
PMBHAN103	Shift materials safely by hand

A maximum of **one (1)** unit may be chosen from units packaged in the MSM20116 Certificate II in Process Manufacturing.

A maximum of **two (2)** relevant units may be selected from this Training Package, other endorsed Training Packages and accredited courses, where those units are packaged in a Certificate I.

Qualification Mapping Information

Release 2. Imported unit updated to current version. Equivalent

Release 1. Supersedes and is equivalent to MSA10207 Certificate I in Process Manufacturing.

Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=d1287d36-dff4-4e9f-ad2c-9d6270054027

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MSM10216 Certificate I in Manufacturing (Pathways)

Modification History

Release 2. Imported units updated to current versions. Equivalent.

Release 1. Units updated. Supersedes and is equivalent to MSA10107 Certificate I in Manufacturing (Pathways).

Qualification Description

The MSM10216 Certificate I in Manufacturing (Pathways) is designed to develop skills that are essential for employment and skills that relate directly to a work activity as specified in the selected industry/technical unit.

The units selected must provide practical skills that are relevant and useful to the area in which the person hopes to gain employment or is currently working. The group of units should be chosen to support the project and should incorporate both the technical and employability skills needed for work.

Achievement of the MSM10216 Certificate I in Manufacturing (Pathways) will provide the student with a set of competencies that collectively open up pathways into employment and/or further study in the manufacturing industry.

Entry Requirements

There are no entry requirements for this qualification.

Packaging Rules

To be awarded the MSM10216 Certificate I in Manufacturing (Pathways), competency must be achieved in **nine** (**9**) units of competency:

- **three** (**3**) core units of competency
- **six** (**6**) elective units of competency, chosen as specified below:
  - **one** (**1**) unit of competency from Group A
  - **five** (**5**) units of competency from Group B, **three** (**3**) of which may be selected from this Training Package, other endorsed Training Packages and/or accredited courses, as specified below.

Note: The industry/technical units coded MSMPCII (in Group A) are designed for use only in a Pathways qualification or Skill Set. They should not be used in other instances as

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replacements for units that have direct job outcomes.

Core units

Unit code	**Unit title**
MSMPCI101	Adapt to work requirements in industry
MSMPCI102	Apply effective work practices
MSMPCI103	Demonstrate care and apply safe practices at work
ELECTIVE UNITS **Group A - Industry/technical units***	
Unit code	**Unit title**
MSMPCII296	Make a small furniture item from timber
MSMPCII297	Make an object from cloth using an existing pattern
MSMPCII298	Make an object from metal
MSMPCII299	Make an object from plastic
Group B - Other elective units	
Unit code	**Unit title**
MSTCL2001	Use a sewing machine
MSTGN2011	Identify fibres and fabrics
MSTCL2006	Press work
MSTCL2007	Lay up, mark and cut uncomplicated fabrics and lays
MSTCL2008	Finish garment production

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MEM03001B	Perform manual production assembly
MEM05007C	Perform manual heating and thermal cutting
MEM05012C	Perform routine manual metal arc welding
MEM18001C	Use hand tools
MEM18002B	Use power tools/hand held operations
MSFFM1002	Operate basic woodworking machines
MSFFM2001	Use furniture making sector hand and power tools
MSFFM2002	Assemble furnishing components
MSFFM2003	Select and apply hardware
MSFFM2005	Join solid timber
MSFSF1001	Produce basic soft furnishings accessories
MSFSF2001	Cut single layer fabrics
MSMOPS100	Use equipment
MSMOPS101	Make measurements
MSMOPS102	Perform tasks to support production
MSMOPS244	Lay out and cut materials
PMBFIN201	Finish products and components
PMBFIN205	Hand decorate products
PMBPREP205	Assemble materials and equipment for production
PMBPREP206	Prepare materials to formulae
PMBPROD236	Operate hand held air/power equipment for production processes
PMBPROD240	Cut materials

A maximum of **three** (**3**) relevant units can be selected from this Training Package, other endorsed Training Packages and accredited courses, where those units are packaged in a Certificate I or II.

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Any elective unit/s selected from another Training Package must relate to the core function/role of the selected industry/technical unit.

Qualification Mapping Information

Release 2. Imported units updated to current versions. Equivalent.

Release 1. Supersedes and is equivalent to MSA10107 Certificate I in Manufacturing (Pathways).

Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=d1287d36-dff4-4e9f-ad2c-9d6270054027

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MSM20116 Certificate II in Process Manufacturing

Modification History

Release 3. Imported units updated to current versions. Equivalent.

Release 2. Imported units updated to current versions. Equivalent.

Release 1. Units updated. Supersedes and is equivalent to Supersedes MSA20107 Certificate II in Process Manufacturing.

Qualification Description

The MSM20116 Certificate II in Process Manufacturing provides the competencies required by competent production workers who undertake vital production support roles directly related to producing products. Production workers apply a breadth and depth of knowledge to a defined range of situations and would be expected to apply this knowledge to solve a defined range of problems by applying known solutions to a limited range of predictable problems.

This qualification has been developed for use across the three process manufacturing sectors:

- chemical, hydrocarbons and refining
- plastics, rubber and cablemaking
- manufactured mineral products.

Entry Requirements

There are no entry requirements for this qualification.

Packaging Rules

To be awarded the MSM20116 Certificate II in Process Manufacturing, competency must be achieved in **fourteen (14)** units of competency:

- **three (3)** core units of competency
- **eleven (11)** elective units of competency, **four (4**) of which can be selected from this Training Package, other endorsed Training Packages and accredited courses, as specified below.

Note: Where prerequisite units are identified they must be counted in the total number of units required for achievement of the qualification.

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Core units

Unit code	**Unit title**
MSMENV272	Participate in environmentally sustainable work practices
MSMWHS200	Work safely
MSMSUP210	Process and record information

Elective units

Unit code	**Unit title**	**Prerequisites**
FWPCOT2238	Cut materials with a hand-held chainsaw	
LMTGN2008	Coordinate work of team/section	
HLTAID003	Provide first aid	
MEM16006A	Organise and communicate information	
MEM16007A	Work with others in a manufacturing, engineering or related environment	
MEM16008A	Interact with computing technology	
MEM18001C	Use hand tools	
MEM18002B	Use power tools/hand held operations	
MSMENV172	Identify and minimise environmental hazards	
MSMOPS100	Use equipment	
MSMOPS101	Make measurements	
MSMOPS102	Perform tasks to support production	
MSMOPS200	Operate equipment	
MSMOPS201	Cut polymer materials	
MSMOPS202	Fabricate polymer materials	

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MSMOPS212	Use organisation computers or data systems	
MSMOPS244	Layout and cut materials	
MSMPER200	Work in accordance with an issued permit	
MSMPER201	Monitor and control work permits	
MSMPER202	Observe permit work	
MSMPER205	Enter confined space	MSMPER200
MSMSUP100	Apply workplace context to own job	
MSMSUP101	Clean workplace or equipment	
MSMSUP106	Work in a team	
MSMSUP200	Achieve work outcomes	
MSMSUP204	Pack products or materials	
MSMSUP205	Transfer loads	
MSMSUP230	Monitor process operations	
MSMSUP240	Undertake minor maintenance	
MSMSUP273	Handle goods	
MSMSUP280	Manage conflict at work	
MSMSUP291	Participate in continuous improvement	
MSMSUP292	Sample and test materials and product	
MSMWHS100	Follow WHS procedures	
MSMWHS110	Follow emergency response procedures	
MSMWHS201	Conduct hazard analysis	
MSMWHS205	Control minor incidents	
MSMWHS210	Undertake first response to non-fire incidents	
MSMWHS212	Undertake first response to fire incidents	
MSMWHS216	Operate breathing apparatus	

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MSMWHS217	Gas test atmospheres	
MSMWHS218	Control the risks of falls	
MSS402002	Sustain process improvements	
MSS402020	Apply quick changeover procedures	
MSS402021	Apply Just in Time procedures	
MSS402082	Apply cost factors to work practices	
MSS402040	Apply 5S procedures	
MSS402050	Monitor process capability	
MSS402051	Apply quality standards	
MSS402083	Use planning software systems in operations	
MSS402080	Undertake root cause analysis	
PMBHAN103	Shift materials safely by hand	
TLID2010	Operate a forklift	

Elective units may also be chosen from the Group A or Group B units in PMA20116, PMB20107 and PMC20110.

A maximum of **four (4)** relevant units may be selected from this Training Package, other endorsed Training Packages and accredited courses, where those units are packaged in a Certificate II or III. Note: a maximum of **two (2)** units may be chosen from a Certificate III.

Qualification Mapping Information

Release 3. Imported units updated to current versions. Equivalent.

Release 2. Imported units updated to current versions. Equivalent.

Release 1. Supersedes and is equivalent to MSA20107 Certificate II in Process Manufacturing.

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Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=d1287d36-dff4-4e9f-ad2c-9d6270054027

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MSM20216 Certificate II in Manufacturing Technology

Modification History

Release 2. Imported units updated to current versions. Equivalent.

Release 1. Units updated. Supersedes and is equivalent to MSA20208 Certificate II in Manufacturing Technology.

Qualification Description

The MSM20216 Certificate II in Manufacturing Technology applies to a learning and assessment environment where access to normal production operations is not available. A typical environment will be for application in a VET in Schools delivery environment or other simulated or trial manufacturing environment where a high degree of supervision exists. The units are suitable for delivery in a school environment and for schools to contextualise the units to local manufacturing industry activities.

Entry Requirements

There are no entry requirements for this qualification.

Packaging Rules

To be awarded the MSM20216 Certificate II in Manufacturing Technology, competency must be achieved in **ten** (**10**) units of competency:

- **five** (**5**) core units of competency
- **five** (**5**) elective units of competency, chosen as described below:
  - **a** minimum of **one (1)** unit must be selected from each of Group A and B
  - the remaining **three (3)** electives may be chosen from Groups A, B and C, with a maximum of **two (2)** from Group C

Note: that the manufacturing technology units coded MSMPCII (in Group B) are designed for use only in a Pathways qualification or Skill Set. They should not be used in other instances as replacements for units that have direct job outcomes.

Core units of competency

Unit code	Unit title
MSMENV272	Participate in environmentally sustainable work practices

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MSMWHS200	Work safely
MSS402001	Apply competitive systems and practices
MSS402051	Apply quality standards
MSS402080	Undertake root cause analysis

ELECTIVE UNITS

Group A - Manufacturing practice

Unit code	**Unit title**
MSS402002	Sustain process improvements
MSS402010	Manage the impact of change on own work
MSS402031	Interpret product costs in terms of customer requirements
MSS402050	Monitor process capability

Group B - Manufacturing technology*

MSMPCII295	Operate manufacturing equipment
MSMPCII296	Make a small furniture item from timber
MSMPCII297	Make an object from cloth using an existing pattern
MSMPCII298	Make an object from metal
MSMPCII299	Make an object from plastic

Group C

Up to **two** (**2**) elective units can be selected from other qualifications in this Training Package, other endorsed Training Packages and accredited courses where those units are packaged in a Certificate I or II.

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Qualification Mapping Information

Release 2. Imported units updated to current versions. Equivalent.

Release 1. Supersedes and is equivalent to MSA20208 Certificate II in Manufacturing Technology

Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=d1287d36-dff4-4e9f-ad2c-9d6270054027

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MSM21015 Certificate II in Recreational Vehicle Service and Repair

Modification History

Release 5. Imported units updated to current versions. Equivalent.

Release 4. Imported units updated to current versions. Equivalent.

Release 3. Imported units updated to current versions. Equivalent.

Release 2. Imported units updated to current version. Equivalent.

Release 1. Supersedes and is equivalent to MSA20510 Certificate II in Recreational Vehicle Service and Repair.

Qualification Description

The MSM21015 Certificate II in Recreational Vehicle Service and Repair has been developed as an entry-level qualification. People with this qualification would be expected to work under supervision, servicing and repairing recreational vehicles, including:

- motor homes
- caravans
- camper trailers
- slide-ons
- fifth wheelers

to meet Australian requirements, such as road worthiness and the Australian Design Rule (ADR).

They may work in a service and repair facility or a manufacturer's factory undertaking warranty work. Work may be for an insurance claim, modifying an existing recreational vehicle or undertaking routine servicing.

There are no specific licences that relate to this qualification. However, some units in this qualification may have licensing or regulatory requirements depending on the work context. Local regulations should be checked for details.

Entry Requirements

There are no entry requirements for this qualification.

Packaging Rules

To be awarded the MSM21015 Certificate II in Recreational Vehicle Service and Repair,

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competency must be achieved in **fourteen (14)** units of competency:

- **three (3)** core units of competency
- **eleven (11)** elective units of competency, as specified below:
  - a minimum of **seven (7)** units of competency must be selected from Group A
  - the balance of units, to a maximum of **four (4)** may be selected from:
    - units not previously selected from Group A
    - Group B units listed below.

Note: Up to **four (4)** elective units of competency may be selected from this Training Package, other endorsed Training Packages and accredited courses, as specified in Groups A and B.

Note: Where prerequisite units are identified they must be counted in the total number of units required for achievement of the qualification.

Core units

Complete all **three (3)** units from the following list.

Unit code	Unit title
MSMENV272	Participate in environmentally sustainable work practices
MSMSUP102	Communicate in the workplace
MSMWHS200	Work safely

ELECTIVE UNITS

Group A Elective units

Select a minimum of **seven (7)** units from the following list.

Unit code	Unit title	Prerequisites
AUMGTT001	Apply trim to vehicle components	
AURETR015	Inspect, test and service batteries	
AURETR012	Test and repair basic electrical circuits	
AURETB001	Diagnose and repair electric braking systems	

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AURTTB001	Inspect and service braking systems	
AURTTD004	Inspect and service suspension systems	
AURTTJ012	Remove, inspect and refit wheel hubs and associated brake components	
AURTTA017	Carry out vehicle safety inspections	
AURVTS004	Repair vehicle composite material components	
AURVTG011	Install side vehicle windows	
AURTTY001	Repair vehicle chassis, frame and associated components	
AURVTT015	Fabricate and install canvas products for automotive and marine components	
AURVTT019	Fabricate and install automotive and marine frames, canopies and side curtains	
CPCPCM2043A	Carry out WHS requirements	
CPCPGS3046A	Install LPG systems in caravans, mobile homes and mobile workplaces	CPCPCM2043A
MEM05005B	Carry out mechanical cutting	MEM12023A MEM18001C
MEM05012C	Perform routine manual metal arc welding	
MEM05050B	Perform routine gas metal arc welding	
MEM09002B	Interpret technical drawing	
MEM10002B	Terminate and connect electrical wiring	MEM09002B MEM12002B MEM18001C
MEM12002B	Perform electrical/electronic measurement	
MEM12023A	Perform engineering measurements	
MEM18038B	Maintain wheels and tyres	MEM18001
MEM18045B	Fault find/repair electrical equipment/ components up to 250 volts single phase	MEM09002B

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	supply	MEM10002B MEM12002B MEM12023A MEM18001C MEM18002B
MSMOPS101	Make measurements	
MSMRV350	Remove and replace a recreational vehicle roof	
MSMRV351	Remove and replace a recreational vehicle floor	
MSMRV352	Remove and replace a recreational vehicle sidewall cladding	
MSMRV353	Remove and replace a recreational vehicle shower cubicle	
MSMRV354	Remove and replace a recreational vehicle shower walls	
MSMRV355	Remove and replace a camper/pop-top roof	
MSMRV356	Remove and replace a gas struts and roof lifting equipment on a recreational vehicle	
MSMRV357	Remove and replace external components of a recreational vehicle	
MSMRV358	Modify the body of a recreational vehicle	
MSMRV359	Install additional appliances in a recreational vehicle	
MSMRV360	Service camper wind up systems	
MSMRV361	Repair dry rot in a recreational vehicle	
MSMRV362	Install and repair battery systems in a recreational vehicle	
MSMRV363	Complete pre-delivery check of a recreational vehicle	
MSMRV364	Hand over a recreational vehicle to a customer	

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MSMRV365	Remove and refit body moulding	
MSMRV366	Fit transfers and decals to a recreational vehicle	
MSMRVS202	Repair/service LPG systems in a recreational vehicle	

Up to **two (2)** relevant Group A elective units of competency may be selected from this Training Package, other endorsed Training Packages and accredited courses, where they are available for inclusion at Certificate II qualification.

Group B Elective units

Unit code	**Unit title**	**Prerequisites**
MEM11010B	Operate mobile load shifting equipment	
MEM11011B	Undertake manual handling	
MEM14004A	Plan to undertake a routine task	
MEM15024A	Apply quality procedures	
MEM18001C	Use hand tools	
MEM18002B	Use power tools/hand held operations	
MSMOPS212	Use organisation computers or data systems	
MSMPER200	Work in accordance with an issued permit	
MSMRVG201	Tow a recreational vehicle safely	
MSMRVT201	Apply technical knowledge of recreational vehicle manufacturing to work activities	
MSMSUP100	Apply workplace context to own job	
MSMSUP101	Clean workplace or equipment	
MSMSUP106	Work in a team	

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MSMSUP240	Undertake minor maintenance	
MSMSUP280	Manage conflict at work	
MSMSUP291	Participate in continuous improvement	
MSMWHS110	Follow emergency response procedures	
MSMWHS205	Control minor incidents	
MSS402040	Apply 5S procedures	
MSS402080	Undertake root cause analysis	
PMBHAN103	Shift materials safely by hand	
SIRXPDK001	Advise on products and services	
TLID2010	Operate a forklift	
Up to **two (2)** relevant Group B elective units of competency may be selected from this Training Package, other endorsed Training Packages and accredited courses, where they are available for inclusion at Certificate II or III qualification.		

Qualification Mapping Information

Release 5. Imported units updated to current versions. Equivalent.

Release 4. Imported units updated to current versions. Equivalent.

Release 3. Imported units updated to current versions. Equivalent.

Release 2. Imported units updated to current version. Equivalent.

Release 1. Supersedes and is equivalent to MSA20510 Certificate II in Recreational Vehicle Service and Repair.

Links

Companion Volume Implementation Guides are available at VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=d1287d36-dff4-4e9f-ad2c-9d6270054027

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MSM21115 Certificate II in Recreational Vehicle Manufacturing

Modification History

Release 4. Imported units updated to current versions. Equivalent.

Release 3. Imported units updated to current versions. Equivalent.

Release 2. Imported units updated to current version. Equivalent.

Release 1. Supersedes and is equivalent to MSA20610 Certificate II in Recreational Vehicle Manufacture.

Qualification Description

The MSM21115 Certificate II in Recreational Vehicle Manufacturing has been developed as an entry-level qualification. People with this qualification would be expected to work under supervision manufacturing recreational vehicles, including:

- motor homes
- caravans
- camper trailers
- slide-ons
- fifth wheelers

to meet Australian requirements, such as road worthiness and the Australian Design Rule (ADR).

They may work in a large manufacturing organisation or a small workshop.

There are no specific licences that relate to this qualification. However, some units in this qualification may have licensing or regulatory requirements depending on the work context. Local regulations should be checked for details.

Entry Requirements

There are no entry requirements for this qualification.

Packaging Rules

To be awarded the MSM21115 Certificate II in Recreational Vehicle Manufacturing, competency must be achieved in **fourteen (14)** units of competency:

- **three (3)** core units of competency
- **eleven (11)** elective units of competency, as specified below:
  - a minimum of **seven (7)** units of competency must be selected from Group A

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- the balance of units, to a maximum of **four (4)** may be selected from:
  - units not previously selected from Group A
  - Group B units listed below.

Note: Up to **four (4)** elective units of competency may be selected from this Training Package, other endorsed Training Packages and accredited courses, as specified in Groups A and B.

Note: Where prerequisite units are identified they must be counted in the total number of units required for achievement of the qualification.

Core units

Complete all three (3) units from the following list.

Unit code	**Unit title**
MSMENV272	Participate in environmentally sustainable work practices
MSMSUP102	Communicate in the workplace
MSMWHS200	Work safely

ELECTIVE UNITS

Group A Electives

Select a minimum of **seven (7)** units from the following list.

Unit code	**Unit title**	**Prerequisites**
AUMGTT001	Apply trim to vehicle components	
AURVTT015	Fabricate and install canvas products for automotive and marine components	
AURVTT019	Fabricate and install automotive and marine frames, canopies and side curtains	
CPCPCM2043A	Carry out WHS requirements	

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CPCPGS3046A	Install LPG systems in caravans, mobile homes and mobile workplaces	CPCPCM2043A
MEM03001B	Perform manual production assembly	
MEM05005B	Carry out mechanical cutting	MEM12023A MEM18001C
MEM07024B	Operate and monitor machine/process	
MEM07028B	Operate computer controlled machines/ processes	MEM07024B
MEM09002B	Interpret technical drawing	
MEM10002B	Terminate and connect electrical wiring	MEM09002B MEM12002B MEM18001C
MEM12002B	Perform electrical/electronic measurement	
MEM12023A	Perform engineering measurements	
MSMOPS101	Make measurements	
MSMRV310	Fit recreational vehicle floor	
MSMRV311	Fit furniture in a recreational vehicle	
MSMRV312	Fit water systems in a recreational vehicle	
MSMRV313	Fit 12 V cable systems in a recreational vehicle	
MSMRV314	Construct and fit roof to a recreational vehicle	
MSMRV315	Construct and fit slide out in a recreational vehicle	
MSMRV316	Fit appliances in a recreational vehicle	
MSMRV317	Install solar equipment on a recreational vehicle	
MSMRV318	Fit cladding to a recreational vehicle	
MSMRV319	Fit front and rear moulds to a recreational vehicle	

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MSMRV320	Fit windows and doors to a recreational vehicle	
MSMRV321	Fit required external items to a recreational vehicle	
MSMRV322	Fit required external electrical components to a recreational vehicle	
MSMRV323	Fit required internal items to a recreational vehicle	
MSMRV324	Conduct final quality inspection for a recreational vehicle	
MSMRV325	Fabricate a chassis and suspension for a recreational vehicle	
MSMRV365	Remove and refit body moulding	
MSMRV366	Fit transfers and decals to a recreational vehicle	

Up to **two (2)** relevant Group A elective units of competency may be selected from this Training Package, other endorsed Training Packages and accredited courses, where they are available for inclusion at Certificate III qualification.

Group B Elective units

Select a maximum of **four (4)** units from the following list.

Unit code	**Unit title**	**Prerequisites**
MEM11010B	Operate mobile load shifting equipment	
MEM14004A	Plan to undertake a routine task	
MEM15024A	Apply quality procedures	
MEM18001C	Use hand tools	
MEM18002B	Use power tools/hand held operations	
MSMOPS102	Perform tasks to support production	
MSMOPS200	Operate equipment	

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MSMOPS212	Use organisation computers or data systems	
MSMPER200	Work in accordance with an issued permit	
MSMRVT201	Apply technical knowledge of recreational vehicle manufacturing to work activities	
MSMSUP100	Apply workplace context to own job	
MSMSUP101	Clean workplace or equipment	
MSMSUP106	Work in a team	
MSMSUP240	Undertake minor maintenance	
MSMSUP273	Handle goods	
MSMSUP280	Manage conflict at work	
MSMSUP291	Participate in continuous improvement	
MSMWHS110	Follow emergency response procedures	
MSMWHS205	Control minor incidents	
MSS402021	Apply Just in Time (JIT) procedures	
MSS402040	Apply 5S procedures	
MSS402080	Undertake root cause analysis	
PMBHAN103	Shift materials safely by hand	
TLID2010	Operate a forklift	
Up to **two (2)** relevant Group B elective units of competency may be selected from this Training Package, other endorsed Training Packages and accredited courses, where they are available for inclusion at Certificate II or III qualification		

Qualification Mapping Information

Release 4. Imported units updated to current versions. Equivalent.

Release 3. Imported units updated to current versions. Equivalent.

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Release 2. Imported units updated to current version. Equivalent.

Release 1. Supersedes and is equivalent to MSA20610 Certificate II in Recreational Vehicle Manufacture.

Links

Companion Volume Implementation Guides are available at VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=d1287d36-dff4-4e9f-ad2c-9d6270054027

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MSM30116 Certificate III in Process Manufacturing

Modification History

Release 5. Minor adjustment to elective units. Equivalent.

Release 4. Minor adjustment to elective units. Equivalent.

Release 3. Addition of 6 units to Group B electives.

Release 2. Minor adjustment to Packaging Rules statement in Group B units. Imported units updated to current versions. Equivalent.

Release 1. Units updated. Supersedes and is equivalent to MSA30107 Certificate III in Process Manufacturing.

Qualification Description

The MSM30116 Certificate III in Process Manufacturing provides the competencies required by advanced production workers who use a range of equipment and provide support functions directly related to producing products. They would undertake more advanced roles than workers with a Certificate II in Process Manufacturing, working in accordance with operating procedures and applying knowledge to anticipate problems and solve a range of foreseen and unforeseen problems.

This qualification is designed for use across the three process manufacturing sectors:

- chemical, hydrocarbons and oil refining
- plastics, rubber and cablemaking
- manufactured mineral products.

It includes the same range of electives, but with different packaging rules to provide a qualification for workers unable to meet the technical requirements of PMA, PMB or PMC.

This qualification covers:

- production support workers - people working in manufacturing and filling the vital production support roles but who may not have the opportunity to develop competency in sufficient technical units related directly to producing products
- employees who operate across more than one category within process manufacturing or 'specialised processes' and elsewhere when required.

Entry Requirements

There are no entry requirements for this qualification.

Packaging Rules

To be awarded the MSM30116 Certificate III in Process Manufacturing, competency must be achieved in **twenty-one (21)** units of competency:

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- **four (4)** core units of competency
- **seventeen (17)** elective units of competency, as specified below:
  - a minimum of **five (5)** units from Group A
  - a maximum of **twelve (12)** units from Group B.

Note: Where pre-requisite units are identified they must be counted in the total number of units required for achievement of the qualification.

Core Units

Unit code	**Unit title**
MSMENV272	Participate in environmentally sustainable work practices
MSMWHS200	Work safely
MSMSUP210	Process and record information
MSS402051	Apply quality standards

Elective Units

Group A Elective Units

Unit code	**Unit title**	**Prerequisites**
MEM03001B	Perform manual production assembly	
MEM03006B	Set assembly stations	
MEM09002B	Interpret technical drawing	
MEM09204A	Produce basic engineering detail drawings	MEM09002B
MEM11005B	Pick and process order	
MEM11006B	Perform production packaging	
MEM11007B	Administer inventory procedures	
MEM12023A	Perform engineering measurements	
MEM15001B	Perform basic statistical quality control	

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MEM15003B	Use improvement processes in team activities	MEM16007A
MEM15004B	Perform inspection	
MSL97013	Perform basic tests	
MSMBIO301	Process biomass using pyrolyser	
MSMBIO302	Ferment biomaterial to produce bioproducts	
MSMBIO303	Distil bioproducts	
MSMBIO304	Separate and recover bioproducts	
MSMOPS301	Treat corrosion	
MSMOPS363	Organise on site work	
MSMPER300	Issue work permits	MSMWHS201
MSMSUP300	Identify and apply process improvements	
MSMSUP301	Apply HACCP to the workplace	
MSMSUP303	Identify equipment faults	
MSMSUP309	Maintain and organise workplace records	
MSMSUP310	Contribute to the development of plant documentation	
MSMSUP330	Develop and adjust a production schedule	
MSMSUP382	Provide coaching/mentoring in the workplace	
MSMSUP383	Facilitate a team	
MSMSUP390	Use structured problem solving tools	
MSMWHS300	Facilitate the implementation of WHS for a work group	MSMWHS200
TAEDEL301	Provide work skill instruction	

Group A units may also be selected from the Group A and Group B units in the PMA and PMB Certificates III, and Group A and Group B1 units in the PMC Certificate III.

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Group B Elective units		
Unit code	**Unit title**	**Prerequisites**
FWPCOT2238	Cut materials with a hand-held chainsaw	
HLTAID003	Provide first aid	
MSTGN2008	Coordinate work of team/section	
MEM13003B	Work safely with industrial chemicals and materials	
MEM16006A	Organise and communicate information	
MEM16007A	Work with others in a manufacturing, engineering or related environment	
MEM16008A	Interact with computing technology	
MEM18001C	Use hand tools	
MEM18002B	Use power tools/hand held operations	
MSMENV172	Identify and minimise environmental hazards	
MSMOPS100	Use equipment	
MSMOPS101	Make measurements	
MSMOPS102	Perform tasks to support production	
MSMOPS200	Operate equipment	
MSMOPS201	Cut polymer materials	
MSMOPS202	Fabricate polymer materials	
MSMOPS212	Use enterprise computers or data systems	
MSMOPS244	Layout and cut materials	
MSMPER200	Work in accordance with an issued permit	
MSMPER201	Monitor and control work permits	
MSMPER202	Observe permit work	
MSMPER205	Enter confined space	MSMPER200

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MSMPMC308	Operate slip casting equipment	
MSMPMC309	Finish products after firing	
MSMPMC310	Hand mould products	
MSMPMC311	Operate a firing kiln	
MSMPMC312	Operate glass finishing equipment	
MSMPMC403	Set up and optimise glass forming process	
MSMSUP100	Apply workplace context to own job	
MSMSUP101	Clean workplace or equipment	
MSMSUP106	Work in a team	
MSMSUP200	Achieve work outcomes	
MSMSUP204	Pack products or materials	
MSMSUP205	Transfer loads	
MSMSUP230	Monitor process operations	
MSMSUP240	Undertake minor maintenance	
MSMSUP273	Handle goods	
MSMSUP280	Manage conflict at work	
MSMSUP291	Participate in continuous improvement	
MSMSUP292	Sample and test materials and product	
MSMWHS100	Follow WHS procedures	
MSMWHS110	Follow emergency response procedures	
MSMWHS201	Conduct hazard analysis	
MSMWHS205	Control minor incidents	
MSMWHS210	Undertake first response to non-fire incidents	
MSMWHS212	Undertake first response to fire incidents	
MSMWHS216	Operate breathing apparatus	

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MSMWHS217	Gas test atmospheres	
MSMWHS218	Control the risks of falls	
MSS402002	Sustain process improvements	
MSS402020	Apply quick changeover procedures	
MSS402021	Apply Just in Time procedures	
MSS402082	Apply cost factors to work practices	
MSS402040	Apply 5S procedures	
MSS402050	Monitor process capability	
MSS402051	Apply quality standards	
MSS402083	Use planning software systems in operations	
MSS402080	Undertake root cause analysis	
PMBHAN103	Shift materials safely by hand	
TLID2010	Operate a forklift	

Group B units may also be chosen from:

- Group C units in the PMA and PMB Certificates III and Group B2 units in the PMC Certificate III.
- A maximum of **six (6)** relevant units from this Training Package, other endorsed Training Packages and accredited courses – a maximum of 4 units packaged in a Certificate II or III and a maximum of 2 units packaged in a Certificate IV.

Qualification Mapping Information

Release 5. Minor adjustment to elective units. Equivalent.

Release 4. Minor adjustment to elective units. Equivalent.

Release 3. Addition of 6 units to Group B electives.

Release 2. Minor adjustment to Packaging Rules statement in Group B units. Imported units updated to current versions. Equivalent.

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Release 1. Units updated. Supersedes and is equivalent to MSA30107 Certificate III in Process Manufacturing.

Links

Companion Volume Implementation Guides are available at VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=d1287d36-dff4-4e9f-ad2c-9d6270054027

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MSM30216 Certificate III in Surface Preparation and Coating Application

Modification History

Release 2. Correction of typographical error in Group A Electives and inclusion missing text for Group E - Balance of units. Imported units updated to current versions. Equivalent.

Release 1. Supersedes and is equivalent to MSA30309 Certificate III in Surface Preparation and Coating Application. Units updated.

Qualification Description

The MSM30216 Certificate III in Surface Preparation and Coating Application provides the trade-level competencies required to perform the wide range of surface preparation and protective coating application operations that occur across a range of heavy industry, ships and infrastructure.

The surfaces being prepared are typically metal (usually ferrous) and may be structural or have other mechanical requirements. The protective coatings may be liquid or solid. The applied coating may, or may not be the final coat and its purpose is protective, not decorative.

People with this qualification would be expected to work under routine supervision only, preparing surfaces and/or applying protective coatings in accordance with a provided technical specification. They would be expected to recognise situations where the intended approach was not appropriate/not working and take appropriate action to ensure the final result is satisfactory.

People with this qualification may be expected to undertake some combination of:

- abrasively blast clean surfaces to Australian Standard requirements and in accordance with the specification
- prepare surfaces for coating as required by the specification
- apply liquid protective surface coatings
- apply solid polymer surface coatings (this is usually a specialised area).
-

They may work in a manufacturer's factory or they may work as contractors on the site of the plant/ship/infrastructure.

This work may be undertaken:

- in a factory environment
- in an onsite, outdoors environment

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- inside a vessel or other confined space
- outside a vessel or structure
- at heights
- some combination of these.

Entry Requirements

There are no entry requirements for this qualification.

Packaging Rules

To be awarded the MSM30216 Certificate III in Surface Preparation and Coating Application competency must be achieved in **thirty-one (31)** units of competency:

- **eleven (11)** core units of competency
- **twenty (20)** elective units of competency, as specified below:
  - a minimum of **three (3)** units from Group A
  - a minimum of **two (2)** units from Group B
  - a minimum of **three (3)** units from Group C
  - a minimum of **three (3)** units from Group D
    - the balance of units, to a maximum of **nine (9),** may be selected in any combination from the remaining units in Groups A, B, C or D.

Note: A total of **five (5)** elective units of competency may be selected from this Training Package, other endorsed Training Packages and accredited courses, as specified below. These comprise:

- a maximum of one surface preparation unit (Group A)
- a maximum of one coating application unit (Group B)
- a maximum of three other relevant elective units.

Note: Where prerequisite units are identified they must be counted in the total number of units required for achievement of the qualification.

Core units

Unit code	Unit title
MEM12023A	Perform engineering measurements
MEM12024A	Perform computations

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MEM14004A	Plan to undertake a routine task
MEM14005A	Plan a complete activity
MEM15002A	Apply quality systems
MEM15024A	Apply quality procedures
MEM16006A	Organise and communicate information
MEM16007A	Work with others in a manufacturing, engineering or related environment
MEM16008A	Interact with computing technology
MSMENV272	Participate in environmentally sustainable work practices
MSMWHS200	Work safely

ELECTIVE UNITS

Group A - Surface Preparation

Unit code	**Unit title**	**Prerequisites**
MEM08002C	Pre-treat work for subsequent surface coating	MEM13003B
MEM08007B	Control surface finish production and finished product quality	
MEM08011B	Prepare surfaces using solvents and/or mechanical means	MEM13003B MEM18001C MEM18002B
MEM08012B	Prepare surfaces by abrasive blasting (basic)	MEM08016B MEM13003B
MEM08013B	Prepare surfaces by abrasive blasting (advanced)	MEM08012B MEM08016B MEM13003B
MEM08016B	Control blast coating by-products, materials and emissions	MEM13003B
PMBPROD248	Prepare surfaces for coating	

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One (1) relevant technical surface preparation unit may be selected from this Training Package, other endorsed Training Packages and accredited courses where it is packaged in a Certificate III.

Group B - Coating Application

Unit code	Unit title	Prerequisites
MEM08014B	Apply protective coatings (basic)	MEM13003B
MEM08015B	Apply protective coatings (advanced)	MEM08014B MEM13003B
MSMOPS201	Cut polymer materials	
MSMOPS202	Fabricate polymer materials	
PMBPROD241	Lay up rubber lining or lag pulleys	
PMBPROD242	Bond polymers to surfaces	
PMBPROD265	Operate portable vulcanising equipment	
PMBPROD323	Produce powder coated products	
PMBPROD375	Vulcanise products using an autoclave	

One (1) relevant technical protective coating application unit may be selected from this Training Package, other endorsed Training Packages and accredited courses where it is packaged in a Certificate III.

Group C - Other elective units

Unit code	Unit title	Prerequisites
MEM11001C	Erect/dismantle scaffolding and equipment	MEM18001C
MEM11002C	Erect/dismantle complex scaffolding and equipment	MEM11001C MEM18001C

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MEM11003B	Coordinate erection/dismantling of complex scaffolding/equipment	MEM11001C MEM11002C MEM18001C
MEM11004B	Undertake dogging	MEM18001C
MEM11010B	Operate mobile load shifting equipment	
MEM11011B	Undertake manual handling	
MEM11021B	Perform advanced operation of load shifting equipment	MEM11010B
MEM11022B	Operate fixed/moveable load shifting equipment	
MEM13001B	Perform emergency first aid	
MEM13003B	Work safely with industrial chemicals and materials	
MSMWHS216	Operate breathing apparatus	
MSMWHS217	Gas test atmospheres	
MSMPER200	Work in accordance with an issued permit	
MSMPER202	Observe permit work	
MSMPER205	Enter confined space	MSMPER200
MSMPER300	Issue work permits	MSMWHS201
MSMWHS201	Conduct hazard analysis	

Group D - Other elective units

Unit code	**Unit title**	**Prerequisites**
MEM07001B	Perform operational maintenance of machines/equipment	MEM18001C
MEM11012B	Purchase materials	
MEM11016B	Order materials	

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MEM12001B	Use comparison and basic measuring devices	
MEM15003B	Use improvement processes in team activities	MEM16007A
MEM15004B	Perform inspection	
MEM15005B	Select and control inspection process and procedures	MEM15004B
MEM16002C	Conduct formal interviews and negotiations	
MEM16005A	Operate as a team member to conduct manufacturing, engineering or related activities	
MEM16011A	Communicate with individuals and small groups	MEM16006A
MEM16013A	Operate in a self-directed team	MEM16007A
MEM17001B	Assist in the development and delivery of training in the workplace	
MEM17003A	Assist in the provision of on the job training	
MEM18001C	Use hand tools	
MEM18002B	Use power tools/hand held operations	
MSMOPS301	Treat corrosion	
MSMOPS363	Organise on-site work	
MSMSUP100	Apply workplace context to own job	
MSMSUP303	Identify equipment faults	
MSMSUP390	Use structured problem solving tools	

Group E - Balance of units

The balance of units, to a maximum of nine (9), may be chosen from any combination of:

- units from Groups A, B, C and D above, not already selected
- up to three (3) relevant units can be selected from this Training Package, other endorsed Training Packages and accredited courses, where those units are available for inclusion at Certificate III.

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Qualification Mapping Information

Release 2. Correction of typographical error in Group A Electives and inclusion missing text for Group E - Balance of units. Imported units updated to current versions. Equivalent.

Release 1. Supersedes and is equivalent to MSA30309 Certificate III in Surface Preparation and Coating Application.

Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=d1287d36-dff4-4e9f-ad2c-9d6270054027

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MSM30318 Certificate III in Manufactured Mineral Products

Modification History

Release 2. Imported units updated to current versions. Equivalent.

Release 1. New qualification. Supersedes and is equivalent to PMC30116 Certificate III in Manufactured Mineral Products, change to packaging rules.

Qualification Description

This qualification reflects the role of operators who perform a range of operations to directly produce manufactured mineral products for industry, including cement, pre-cast concrete, pre-mixed concrete, quarry and asphalt.

The operator will be able to work independently and to apply theoretical and technical knowledge and well-developed skills to undertake operations and exercise judgement in areas such as start-up and shutdown procedures and quality assurance.

The operator will be able to apply product and process knowledge to anticipate and solve a range of routine and non-routine problems. This includes developing solutions to new problems which do not have a known or recorded solution in procedures.

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

Entry Requirements

There are no entry requirements for this qualification.

Packaging Rules

Total number of units = 18

- 5 core units
- 13 elective units, consisting of:
  - a maximum of 1 unit from Group A Measurements
  - up to **4** units from any endorsed Training Package or accredited course – these units must be relevant to the work outcome

All electives chosen must contribute to a valid, industry-supported vocational outcome.

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Core

Unit code	Unit title
MSMENV272	Participate in environmentally sustainable work practices
MSMWHS200	Work safely
MSMSUP100	Apply workplace context to own job
MSMSUP101	Clean workplace or equipment
MSMSUP102	Communicate in the workplace

Electives

Group A Measurements

Unit code	Unit title	Prerequisites
MSMOPS101	Make measurements	
PMAOPS101	Read dials and indicators	

Other electives

Unit code	Unit title	Prerequisites
CPCCCM1016A	Identify requirements for safe tilt-up work	
MEM09002B	Interpret technical drawing	
MSAPMSUP201A	Receive or despatch goods	
MSMOPS200	Operate equipment	
MSMOPS212	Use organisation computers or data systems	
MSMPMC200	Organise self	
MSMPMC300	Produce structural precast concrete	
MSMPMC301	Store materials for production	

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MSMPMC302	Operate equipment to blend/mix materials	
MSMPMC303	Operate grinding equipment	
MSMPMC304	Prepare for production	
MSMPMC305	Heat accelerate the curing of precast concrete	
MSMPMC306	Operate crushing equipment	
MSMPMC307	Operate a calcining kiln	
MSMPMC313	Schedule, cut and bend reinforcement	
MSMPMC314	Finish green concrete products	
MSMPMC315	Cast moulded concrete products	
MSMPMC316	Finish cured concrete products	
MSMPMC317	Conduct benching operations	
MSMPMC318	Assemble, fabricate and place reinforcement	
MSMPMC319	Finish casting operation	
MSMPMC320	Demould concrete products	
MSMPMC321	Batch mix concrete	
MSMPMC322	Deliver concrete to site	
MSMPMC323	Prepare asphalt	
MSMPMC324	Move materials	
MSMPMC325	Operate bulk materials handling equipment	
MSMPMC326	Deliver customer service	
MSMPMC327	Allocate and complete team tasks	
MSMPMC328	Prepare for and apply shotcrete for installation	
MSMPMC329	Prepare moulds and dies	
MSMPMC330	Produce architectural precast concrete	
MSMPMC400	Carry out stock control	

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MSMPMC401	Set up and tune a process	
MSMPMC402	Process raw meal into product	MSMPMC307 Operate a calcining kiln
MSMSUP106	Work in a team	
MSMSUP200	Achieve work outcomes	
MSMSUP210	Process and record information	
MSMSUP240	Undertake minor maintenance	
MSMSUP280	Manage conflict at work	
MSMSUP330	Develop and adjust a production schedule	
MSMWHS300	Facilitate the implementation of WHS for a work group	MSMWHS200 Work safely
MSS402040	Apply 5S procedures	
MSS402051	Apply quality standards	
RIIMPO304E	Conduct wheel loader operations	

Qualification Mapping Information

Release 2. Imported units updated to current versions. Equivalent.

Release 1. New qualification. Supersedes and is equivalent to PMC30116 Certificate III in Manufactured Mineral Products, change to packaging rules.

Links

Companion Volume Implementation Guides are available at VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=d1287d36-dff4-4e9f-ad2c-9d6270054027

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MSM30418 Certificate III in Fenestration

Modification History

Release 1. New qualification.

Qualification Description

This qualification reflects the role of window and door fabrication workers involved in the manufacturing, assembly, quality checking and testing and final fabrication of fenestration products and hardware. It covers the fabrication and assembly of timber, aluminium or uPVC windows and doors to Australian standards. Workers use a range of equipment and provide support functions directly related to producing products, anticipating problems and solving a range of foreseen and unforeseen problems.

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

Entry Requirements

This qualification has no formal entry requirement.

Packaging Rules

Total number of units = 14

- 9 core units
- 5 elective units, consisting of:
  - up to 2 units from any endorsed Training Package or accredited course – these units must be relevant to the work outcome

All electives chosen must contribute to a valid, industry-supported vocational outcome.

Core units

Unit code	Unit title
MEM09002B	Interpret technical drawing
MSFGG2016	Assemble glazing products
MSFGG3028	Select, cut and process materials for glazing products

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MSFGG3039	Manually move glass
MSMOPS101	Make measurements
MSMSUP106	Work in a team
MSMSUP300	Identify and apply process improvements
MSMWHS200	Work safely
MSS402051	Apply quality standards

Elective units

Unit code	Unit title	Pre-requisites
MEM05013C	Perform manual production welding	
MSAPMSUP201A	Receive or despatch goods	
MSFFM3021	Set up, operate and maintain computer numerically controlled (CNC) sizing machines	
MSFFM3022	Set up, operate and maintain computer numerically controlled (CNC) machining and processing centres	
MSFGG2013	Move single glass sheets by mechanical means	
MSFGG3029	Assess glass and glazing requirements	
MSMSUP210	Process and record information	
MSMSUP240	Undertake minor maintenance	
MSS402021	Apply Just in Time procedures	
MSS402040	Apply 5S procedures	
TAEDEL301	Provide work skill instruction	

Qualification Mapping Information

Release 1. New qualification. No equivalent qualification.

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Links

Training Package Companion Volumes are available at - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=d1287d36-dff4-4e9f-ad2c-9d6270054027

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MSM31015 Certificate III in Recreational Vehicle Service and Repair

Modification History

Release 5. Imported units updated to current versions. Equivalent.

Release 4. Imported units updated to current versions. Equivalent.

Release 3. Imported units updated to current versions. Equivalent.

Release 2. Imported units updated to current version. Equivalent.

Release 1. Supersedes and is equivalent to MSA30510 Certificate III in Recreational Vehicle Service and Repair.

Qualification Description

The MSM31015 Certificate III in Recreational Vehicle Service and Repair has been developed as a trade-level qualification. People with this qualification would be expected to work under supervision servicing and repairing recreational vehicles, including:

- motor homes
- caravans
- camper trailers
- slide-ons
- fifth wheelers

to meet Australian requirements, such as road worthiness and the Australian Design Rule (ADR).

They may work in a service and repair facility or a manufacturer's factory undertaking warranty work. Work may be for an insurance claim, modifying an existing recreational vehicle or undertaking routine servicing.

There are no specific licences that relate to this qualification. However, some units in this qualification may have licensing or regulatory requirements depending on the work context. Local regulations should be checked for details.

Entry Requirements

There are no entry requirements for this qualification.

Packaging Rules

To be awarded the MSM31015 Certificate III in Recreational Vehicle Service and Repair, competency must be achieved in **twenty-two (22)** units of competency:

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- **three (3)** core units of competency
  - **nineteen (19)** elective units of competency, as specified below:
  - a minimum of **thirteen (13)** units of competency must be selected from Group A
    - the balance of units, to a maximum of **six (6)** may be selected from:
    - units not previously selected from Group A
    - Group B units listed below.

Note: Up to **four (4)** elective units of competency may be selected from this Training Package, other endorsed Training Packages and accredited courses, as specified in Groups A and B.

Note: Where prerequisite units are identified they must be counted in the total number of units required for achievement of the qualification.

Core units

Complete all **three (3)** units from the following list.

Unit code	**Unit title**
MSMENV272	Participate in environmentally sustainable work practices
MSMSUP102	Communicate in the workplace
MSMWHS200	Work safely

ELECTIVE UNITS

Group A Elective units

Select a minimum of **thirteen (13)** units from the following list.

Unit code	**Unit title**	**Prerequisites**
AUMGTT001	Apply trim to vehicle components	
AURETR015	Inspect, test and service batteries	
AURETR012	Test and repair basic electrical circuits	
AURETB001	Diagnose and repair electric braking systems	

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AURTTA017	Carry out vehicle safety inspections	
AURTTB001	Inspect and service braking systems	
AURTTD004	Inspect and service suspension systems	
AURTTJ012	Remove, inspect and refit wheel hubs and associated brake components	
AURTTA017	Carry out vehicle safety inspections	
AURVTS004	Repair vehicle composite material components	
AURVTG011	Install side vehicle windows	
AURTTY001	Repair vehicle chassis, frame and associated components	
AURVTT015	Fabricate and install canvas products for automotive and marine components	
AURVTT019	Fabricate and install automotive and marine frames, canopies and side curtains	
CPCPCM2043A	Carry out WHS requirements	
CPCPGS3046A	Install LPG systems in caravans, mobile homes and mobile workplaces	CPCPCM2043A
MEM05005B	Carry out mechanical cutting	MEM12023A MEM18001C
MEM05012C	Perform routine manual metal arc welding	
MEM05050B	Perform routine gas metal arc welding	
MEM09002B	Interpret technical drawing	
MEM10002B	Terminate and connect electrical wiring	MEM09002B MEM12002B MEM18001C
MEM12002B	Perform electrical/electronic measurement	
MEM12023A	Perform engineering measurements	
MEM18038B	Maintain wheels and tyres	MEM18001

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MEM18045B	Fault find/repair electrical equipment/components up to 250 volts single phase supply	MEM09002B MEM10002B MEM12002B MEM12023A MEM18001C MEM18002B
MSMOPS101	Make measurements	
MSMRV350	Remove and replace a recreational vehicle roof	
MSMRV351	Remove and replace a recreational vehicle floor	
MSMRV352	Remove and replace a recreational vehicle sidewall cladding	
MSMRV353	Remove and replace a recreational vehicle shower cubicle	
MSMRV354	Remove and replace a recreational vehicle shower walls	
MSMRV355	Remove and replace a camper/pop-top roof	
MSMRV356	Remove and replace a gas struts and roof lifting equipment on a recreational vehicle	
MSMRV357	Remove and replace external components of a recreational vehicle	
MSMRV358	Modify the body of a recreational vehicle	
MSMRV359	Install additional appliances in a recreational vehicle	
MSMRV360	Service camper wind up systems	
MSMRV361	Repair dry rot in a recreational vehicle	
MSMRV362	Install and repair battery systems in a recreational vehicle	
MSMRV363	Complete pre-delivery check of a recreational vehicle	
MSMRV364	Hand over a recreational vehicle to a customer	

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MSMRV365	Remove and refit body moulding	
MSMRV366	Fit transfers and decals to a recreational vehicle	
MSMRVS202	Repair/service LPG systems in a recreational vehicle	

Up to two (2) relevant Group A elective units of competency may be selected from this Training Package, other endorsed Training Packages and accredited courses, where they are available for inclusion at Certificate III qualification.

Group B Elective units

Select a maximum of **six (6)** units from the following list.

Unit code	**Unit title**	**Prerequisites**
MEM11010B	Operate mobile load shifting equipment	
MEM11011B	Undertake manual handling	
MEM14004A	Plan to undertake a routine task	
MEM15024A	Apply quality procedures	
MEM18001C	Use hand tools	
MEM18002B	Use power tools/hand held operations	
MSMOPS212	Use organisation computers or data systems	
MSMPER200	Work in accordance with an issued permit	
MSMRVG201	Tow a recreational vehicle safely	
MSMRVT201	Apply technical knowledge of recreational vehicle manufacturing to work activities	
MSMSUP100	Apply workplace context to own job	
MSMSUP101	Clean workplace or equipment	
MSMSUP106	Work in a team	

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MSMSUP240	Undertake minor maintenance	
MSMSUP280	Manage conflict at work	
MSMSUP291	Participate in continuous improvement	
MSMWHS110	Follow emergency response procedures	
MSMWHS205	Control minor incidents	
MSS402040	Apply 5S procedures	
MSS402080	Undertake root cause analysis	
PMBHAN103	Shift materials safely by hand	
SIRXPDK001	Advise on products and services	
TLID2010	Operate a forklift	
Up to **two (2)** relevant Group B elective units of competency may be selected from this Training Package, other endorsed Training Packages and accredited courses, where they are available for inclusion at Certificate II or III qualification.		

Qualification Mapping Information

Release 5. Imported units updated to current versions. Equivalent.

Release 4. Imported units updated to current versions. Equivalent.

Release 3. Imported units updated to current versions. Equivalent.

Release 2. Imported units updated to current version. Equivalent.

Release 1. Supersedes and is equivalent to MSA30510 Certificate III in Recreational Vehicle Service and Repair.

Links

Companion Volume Implementation Guides are available at VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=d1287d36-dff4-4e9f-ad2c-9d6270054027

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MSM31115 Certificate III in Recreational Vehicle Manufacturing

Modification History

Release 4. Imported units updated to current versions. Equivalent.

Release 3. Imported units updated to current versions. Equivalent.

Release 2. Units updated. Equivalent.

Release 1. Supersedes and is equivalent to MSA30610 Certificate III in Recreational Vehicle Manufacture.

Qualification Description

The MSM31115 Certificate III in Recreational Vehicle Manufacturing has been developed as a trade-level qualification. People with this qualification would be expected to work under supervision manufacturing recreational vehicles, including:

- motor homes
- caravans
- camper trailers
- slide-ons
- fifth wheelers

to meet Australian requirements, such as road worthiness and the Australian Design Rule (ADR).

They may work in a large manufacturing organisation or a smaller workshop.

There are no specific licenses that relate to this qualification. However, some units in this qualification may have licensing or regulatory requirements depending on the work context. Local regulations should be checked for details.

Entry Requirements

There are no entry requirements for this qualification.

Packaging Rules

To be awarded the MSM31115 Certificate III in Recreational Vehicle Manufacturing, competency must be achieved in **twenty-two (22)** units of competency:

- **three (3)** core units of competency
- **nineteen (19)** elective units of competency, as specified below:
  - a minimum of **eight (8)** units of competency must be selected from Group A

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- the balance of units, to a maximum of **eleven (11)** may be selected from:
  - units not previously selected from Group A
  - Group B units listed below.

Note: Up to **four (4)** elective units of competency may be selected from this Training Package, other endorsed Training Packages and accredited courses, as specified in Groups A and B.

Note: Where prerequisite units are identified they must be counted in the total number of units required for achievement of the qualification.

Core units

Complete all **three (3)** units from the following list.

Unit code	**Unit title**
MSMENV272	Participate in environmentally sustainable work practices
MSMSUP102	Communicate in the workplace
MSMWHS200	Work safely

ELECTIVE UNITS

Group A Elective units

Select a minimum of **eight (8)** units from the following list.

Unit code	**Unit title**	**Prerequisites**
AUMGTT001	Apply trim to vehicle components	
AURVTT015	Fabricate and install canvas products for automotive and marine components	
AURVTT019	Fabricate and install automotive and marine frames, canopies and side curtains	
CPCPCM2043A	Carry out WHS requirements	
CPCPGS3046A	Install LPG systems in caravans, mobile	CPCPCM2043A

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	homes and mobile workplaces	
MEM03001B	Perform manual production assembly	
MEM05005B	Carry out mechanical cutting	MEM12023A MEM18001C
MEM05012C	Perform routine manual metal arc welding	
MEM05050B	Perform routine gas metal arc welding	
MEM07024B	Operate and monitor machine/process	
MEM07028B	Operate computer controlled machines/ processes	MEM07024B
MEM09002B	Interpret technical drawing	
MEM10002B	Terminate and connect electrical wiring	MEM09002B MEM12002B MEM18001C
MEM12002B	Perform electrical/electronic measurement	
MEM12023A	Perform engineering measurements	
MSMOPS101	Make measurements	
MSMRV310	Fit recreational vehicle floor	
MSMRV311	Fit furniture in a recreational vehicle	
MSMRV312	Fit water systems in a recreational vehicle	
MSMRV313	Fit 12 V cable systems in a recreational vehicle	
MSMRV314	Construct and fit roof to a recreational vehicle	
MSMRV315	Construct and fit slide out in a recreational vehicle	
MSMRV316	Fit appliances in a recreational vehicle	
MSMRV317	Install solar equipment on a recreational vehicle	
MSMRV318	Fit cladding to a recreational vehicle	

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MSMRV319	Fit front and rear moulds to a recreational vehicle	
MSMRV320	Fit windows and doors to a recreational vehicle	
MSMRV321	Fit required external items to a recreational vehicle	
MSMRV322	Fit required external electrical components to a recreational vehicle	
MSMRV323	Fit required internal items to a recreational vehicle	
MSMRV324	Conduct final quality inspection for a recreational vehicle	
MSMRV325	Fabricate a chassis and suspension for a recreational vehicle	
MSMRV365	Remove and refit body moulding	
MSMRV366	Fit transfers and decals to a recreational vehicle	

Up to two **(2)** relevant Group A elective units of competency may be selected from this Training Package, other endorsed Training Packages and accredited courses, where they are available for inclusion at Certificate III qualification.

Group B Elective units

Select a maximum of **eleven (11)** units from the following list.

Unit code	**Unit title**	**Prerequisites**
MEM11010B	Operate mobile load shifting equipment	
MEM14004A	Plan to undertake a routine task	
MEM15024A	Apply quality procedures	
MEM18001C	Use hand tools	

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MEM18002B	Use power tools/hand held operations	
MSMOPS102	Perform tasks to support production	
MSMOPS200	Operate equipment	
MSMOPS212	Use organisation computers or data systems	
MSMPER200	Work in accordance with an issued permit	
MSMRVT201	Apply technical knowledge of recreational vehicle manufacturing to work activities	
MSMSUP100	Apply workplace context to own job	
MSMSUP101	Clean workplace or equipment	
MSMSUP106	Work in a team	
MSMSUP240	Undertake minor maintenance	
MSMSUP273	Handle goods	
MSMSUP280	Manage conflict at work	
MSMSUP291	Participate in continuous improvement	
MSMWHS110	Follow emergency response procedures	
MSMWHS205	Control minor incidents	
MSS402021	Apply Just in Time (JIT) procedures	
MSS402040	Apply 5S procedures	
MSS402080	Undertake root cause analysis	
PMBHAN103	Shift materials safely by hand	
TLID2010	Operate a forklift	
Up to **two (2)** relevant Group B elective units of competency may be selected from this Training Package, other endorsed Training Packages and accredited courses, where they are available for inclusion at Certificate II or III qualification.		

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Qualification Mapping Information

Release 4. Imported units updated to current versions. Equivalent.

Release 3. Imported units updated to current versions. Equivalent.

Release 2. Units updated. Equivalent.

Release 1. Supersedes and is equivalent to MSA30610 Certificate III in Recreational Vehicle Manufacture.

Links

Companion Volume Implementation Guides are available at VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=d1287d36-dff4-4e9f-ad2c-9d6270054027

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MSM31215 Certificate III in Recreational Vehicle and Accessories Retailing

Modification History

Release 4. Minor adjustment to elective units. Equivalent.

Release 3. Imported units updated to current versions. Equivalent.

Release 2. Imported units updated to current version. Equivalent.

Release 1. Supersedes and is equivalent to MSA30710 Certificate III in Recreational Vehicle and Accessories Retailing.

Qualification Description

The MSM31215 Certificate III in Recreational Vehicle and Accessories Retailing has been developed as a trade-level qualification. People with this qualification would be expected to work under supervision in the sale of recreational vehicles and accessories, including:

- motor homes
- caravans
- camper trailers
- slide-ons
- fifth wheelers.

They will analyse the customer's requirements and then carry them out.

They may work in a service and repair facility or a manufacturer's factory undertaking sales work. Sales may be for a new recreational vehicle, a second-hand/refurbished recreational vehicle, or spare parts and accessories. In some cases selling of the recreational vehicle may also include possible modifications that could be made to the recreational vehicle.

There are no specific licences that relate to this qualification. However, some units in this qualification may have licensing or regulatory requirements depending on the work context. Local regulations should be checked for details.

Entry Requirements

There are no entry requirements for this qualification.

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Packaging Rules

To be awarded the MSM31215 Certificate III in Recreational Vehicle and Accessories Retailing, competency must be achieved in **twenty-two (22)** units of competency:

- **three (3)** core units of competency
- **nineteen (19)** elective units of competency, as specified below:
  - a minimum of **thirteen (13)** units of competency must be selected from Group A
  - the balance of units, to a maximum of **six (6**) may be selected from:
    - units not previously selected from Group A
    - Group B units listed below.

Note: Up to **four (4)** elective units of competency may be selected from this Training Package, other endorsed Training Packages and accredited courses, as specified in Groups A and B.

Note: Where prerequisite units are identified they must be counted in the total number of units required for achievement of the qualification.

Core units

Complete all **three (3)** units from the following list.

Unit code	**Unit title**
MSMENV272	Participate in environmentally sustainable work practices
MSMSUP102	Communicate in the workplace
MSMWHS200	Work safely

Elective units

Group A Elective units

Select a minimum of **thirteen (13)** units from the following list.

Unit code	**Unit title**	**Prerequisites**
AUMANA001	Prepare and document quotations	
AURACA001	Respond to customer needs and enquiries in an	

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	automotive workplace	
AURACA002	Establish customer requirements of a complex nature	
AURACA003	Build customer relations in an automotive workplace	
AURAMA004	Maintain business image in an automotive workplace	
AURAMA005	Manage complex customer issues in an automotive workplace	
AURSCA002	Present automotive products and services for sale	
AURSCA003	Apply sales procedures in an automotive workplace	
AURSCA004	Carry out cash and non-cash payment operations	
AURSCA005	Sell automotive products and services	
AURSCA006	Promote automotive products and services	
AURSAA001	Process customer complaints in an automotive workplace	
BSBCUS501	Manage quality customer service	
SIRXSLS002	Follow point-of-sale procedures	
SIRXRSK002	Maintain store security	
SIRXPDK001	Advise on products and services	

Up to **two (2)** relevant Group A elective units of competency may be selected from this Training Package, other endorsed Training Packages and accredited courses, where they are available for inclusion at Certificate III qualification.

Group B Elective units

Select a maximum of **six (6)** units from the following list.

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Unit code	Unit title	Prerequisites
AURSCA001	Select and supply automotive parts and products	
AURSLA001	Comply with legal requirements when selling automotive products and services	
AURSBA002	Identify and match uncommon automotive parts	
AURTTA017	Carry out vehicle safety inspections	
HLTAID003	Provide first aid	
MSMOPS212	Use organisation computers or data systems	
MSMRVG201	Tow a recreational vehicle safely	
MSMRVT201	Apply technical knowledge of recreational vehicles manufacturing to work activities	
MSMSUP100	Apply workplace context to own job	
MSMSUP106	Work in a team	
MSMSUP280	Manage conflict at work	
MSMSUP291	Participate in continuous improvement	
SITXMPR001	Coordinate production of brochures and marketing materials	
SITXMPR002	Create a promotional display or stand	
UEGNSG615	Fill LPG cylinders	

Up to **two (2)** relevant Group B elective units of competency may be selected from this Training Package, other endorsed Training Packages and accredited courses, where they are available for inclusion at Certificate II or III qualification.

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Qualification Mapping Information

Release 4. Minor adjustment to elective units. Equivalent.

Release 3. Imported units updated to current versions. Equivalent.

Release 2. Imported units updated to current version. Equivalent.

Release 1. Supersedes and is equivalent to MSA30710 Certificate III in Recreational Vehicle and Accessories Retailing.

Links

Companion Volume Implementation Guides are available at VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=d1287d36-dff4-4e9f-ad2c-9d6270054027

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MSM40116 Certificate IV in Process Manufacturing

Modification History

Release 4. Minor adjustment to elective units. Equivalent.

Release 3. Imported units updated to current versions. Equivalent.

Release 2. Duplicated information re importation allowance removed. Imported units updated to current versions. Equivalent.

Release 1. Supersedes and is equivalent to MSA40311 Certificate IV in Process Manufacturing. Units updated.

Qualification Description

The MSM40116 Certificate IV in Process Manufacturing provides the competencies required by advanced production workers who use a range of equipment and are involved in solving complex problems that require theoretical knowledge, combined with an understanding of operating procedures directly related to producing products.

This qualification is typically used to develop employees performing a technical role that includes the ability to work independently and conduct technical problem solving according to the needs of the work required to produce products.

This qualification is designed to develop employees who operate across more than one category within process manufacturing or other product conversion processes in manufacturing. Typical applications would be in chemical, hydrocarbons, refining, minerals processing, plastics, rubber, cablemaking, manufactured mineral products, and other areas as appropriate.

Non-technical team leaders, coordinators and supervisors may be better served by a qualification in competitive manufacturing. Qualification pathways from this qualification include MSM50316 Diploma of Production Management and MSS50312 Diploma of Competitive Systems and Practices.

Entry Requirements

There are no entry requirements for this qualification.

Packaging Rules

To be awarded the MSM40116 Certificate IV in Process Manufacturing competency must be achieved in a total of **twenty-six (26)** units of competency.

- **five (5)** core units of competency
- **twenty-one (21)** elective units of competency, as specified below:
  - a minimum of **four (4)** units from **Group A**

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- the balance of units, to a maximum of **seventeen (17)** may be selected from Groups A, B and C (with a maximum of **eleven (11)** units from Group C).

Note: Up to **nine (9)** elective units may be selected from this Training Package, other endorsed Training Packages and accredited courses, as specified below.

Note: Where prerequisite units are identified they must be counted in the total number of units required for achievement of the qualification.

Core units

Unit code	**Unit title**
MSMENV272	Participate in environmentally sustainable work practices
MSMSUP200	Achieve work outcomes
MSMSUP210	Process and record information
MSMWHS200	Work safely
MSS402051	Apply quality standards

ELECTIVE UNITS

Group A Elective units

Unit code	**Unit title**	**Prerequisites**
MEM15001B	Perform basic statistical quality control	
MSL974019	Perform chemical tests and procedures	
MSMENV472	Implement and monitor environmentally sustainable work practices	
MSMOPS400	Optimise process/plant area	
MSMOPS401	Trial new process or product	

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MSMPER400	Coordinate permit process	MSMPER300
MSMSUP400	Develop and monitor quality systems	
MSMSUP404	Coordinate maintenance	
MSMSUP405	Identify problems in fluid power system	
MSMSUP406	Identify problems in electronic control systems	
MSMWHS400	Contribute to WHS management system	
MSMWHS401	Assess risk	
MSS403085	Ensure process improvements are sustained	
MSS403010	Facilitate change in an organisation implementing competitive systems and practices	
MSS403011	Facilitate implementation of competitive systems and practices	
MSS403013	Lead team culture improvement	
MSS403021	Facilitate a Just in Time system	
MSS403086	Improve cost factors in work practices	
MSS403040	Facilitate and improve implementation of 5S	
MSS403041	Facilitate breakthrough improvements	
MSS403087	Mistake proof an operational process	
MSS404084	Undertake process capability improvements	MSS404052
MSS404052	Apply statistics to operational processes	
MSS404060	Facilitate the use of planning software systems in a work area or team	
MSS404081	Undertake proactive maintenance analyses	
MSS404082	Assist in implementing a proactive maintenance strategy	
PMAWHS420	Develop first aid procedures and manage resources	

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PMAOMIR407	Audit incident preparedness and established response systems	
PMAOMIR418	Coordinate incident response	
PMAOMIR424	Develop and maintain community relationships	
PMAOMIR430	Conduct and assess incident exercises	
PMAOMIR444	Develop incident containment tactics	
PMAOMIR449	Monitor legal compliance obligations during incidents	
PMAOPS402	Respond to abnormal process situations	
PMAOPS405	Operate complex control systems	
PMAOPS410	Monitor remote production facilities	
PMAOPS411	Manage plant shutdown and restart	
PMAOPS433	Manage wells and gathering systems	
PMAOPS434	Commission wells and gathering systems	
PMAOPS450	Solve colour problems	
PMAOPS460	Monitor and operate tailings management facilities	
PMASUP410	Develop plant documentation	
PMASUP420	Minimise environmental impact of process	
PMASUP432	Coordinate pipeline projects	
PMASUP440	Commission/recommission plant	
PMASUP441	Decommission plant	
PMASUP444	Plan plant preparation and isolation	
PMASUP445	Participate in HAZOP studies	PMAOPS280
PMBPROD430	Trial a new die/tool	
PMBPROD431	Trial a new, advanced or complex mould	

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PMBTECH401	Predict polymer properties and characteristics	PMBTECH301
PMBTECH402	Set advanced or complex dies	PMBPREP304
PMBTECH403	Test fibre-composites materials and laminates	
PMBTECH404	Mould chemical resistant and/or fire retardant fibre-composites	PMBPROD347 OR PMBPROD380
PMBTECH405	Repair damaged fibre-composites structures	
PMBTECH406	Diagnose production equipment problems	

Group B Elective units

Unit code	**Unit title**	**Prerequisites**
MEM03001B	Perform manual production assembly	
MEM03006B	Set assembly stations	
MEM09002B	Interpret technical drawing	
MEM09204A	Produce basic engineering detail drawings	MEM09002B
MEM11005B	Pick and process order	
MEM11006B	Perform production packaging	
MEM11007B	Administer inventory procedures	
MEM12023A	Perform engineering measurements	
MEM15001B	Perform basic statistical quality control	
MEM15003B	Use improvement processes in team activities	
MEM15004B	Perform inspection	
MSL973013	Perform basic tests	
MSMOPS301	Treat corrosion	
MSMOPS363	Organise on site work	
MSMPER300	Issue work permits	MSMWHS201

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MSMSUP300	Identify and apply process improvements	
MSMSUP301	Apply HACCP to the workplace	
MSMSUP303	Identify equipment faults	
MSMSUP309	Maintain and organise workplace records	
MSMSUP310	Contribute to the development of plant documentation	
MSMSUP330	Develop and adjust a production schedule	
MSMSUP382	Provide coaching/mentoring in the workplace	
MSMSUP383	Facilitate a team	
MSMSUP390	Use structured problem solving tools	
MSMWHS300	Facilitate the implementation of WHS for a work group	
PMBPREP304	Set a die	
PMBPROD347	Produce composites using hand lamination	PMBPROD247
PMBPROD380	Produce composites using chopper/gun depositor	PMBPROD280
PMBTECH301	Use materials and process knowledge to solve problems	
TAEDEL301	Provide work skill instruction	

Group B units may also be chosen from the Group A and Group B units in the PMA and PMB Certificates III and Group A and Group B1 units in the PMC Certificate III.

A maximum of **four (4)** relevant units may be selected from this Training Package, other endorsed Training Packages and accredited courses, where those units are packaged in a Certificate III or IV.

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Group C Elective units

Unit code	Unit title	Prerequisites
FWPCOT2238	Cut materials with a hand-held chainsaw	
HLTAID003	Provide first aid	
MSTGN2008	Coordinate work of team/section	
MEM13003B	Work safely with industrial chemicals and materials	
MEM16006A	Organise and communicate information	
MEM16007A	Work with others in a manufacturing, engineering or related environment	
MEM16008A	Interact with computing technology	
MEM18001C	Use hand tools	
MEM18002B	Use power tools/hand held operations	
MSMENV172	Identify and minimise environmental hazards	
MSMOPS100	Use equipment	
MSMOPS101	Make measurements	
MSMOPS102	Perform tasks to support production	
MSMOPS200	Operate equipment	
MSMOPS201	Cut polymer materials	
MSMOPS202	Fabricate polymer materials	
MSMOPS212	Use enterprise computers or data systems	
MSMOPS244	Layout and cut materials	

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MSMPER200	Work in accordance with an issued permit	
MSMPER201	Monitor and control work permits	
MSMPER202	Observe permit work	
MSMPER205	Enter confined space	MSMPER200
MSMSUP100	Apply workplace context to own job	
MSMSUP101	Clean workplace or equipment	
MSMSUP106	Work in a team	
MSMSUP200	Achieve work outcomes	
MSMSUP204	Pack products or materials	
MSMSUP205	Transfer loads	
MSMSUP230	Monitor process operations	
MSMSUP240	Undertake minor maintenance	
MSMSUP273	Handle goods	
MSMSUP280	Manage conflict at work	
MSMSUP291	Participate in continuous improvement	
MSMSUP292	Sample and test materials and product	
MSMWHS100	Follow WHS procedures	
MSMWHS110	Follow emergency response procedures	
MSMWHS201	Conduct hazard analysis	
MSMWHS205	Control minor incidents	
MSMWHS210	Undertake first response to non-fire incidents	
MSMWHS212	Undertake first response to fire incidents	
MSMWHS216	Operate breathing apparatus	
MSMWHS217	Gas test atmospheres	
MSMWHS218	Control the risks of falls	

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MSS402002	Sustain process improvements	
MSS402020	Apply quick changeover procedures	
MSS402021	Apply Just in Time (JIT) procedures	
MSS402082	Apply cost factors to work practices	
MSS402040	Apply 5S procedures	
MSS402050	Monitor process capability	
MSS402051	Apply quality standards	
MSS402083	Use planning software systems in operations	
MSS402080	Undertake root cause analysis	
PMAOPS280	Interpret process plant schematics	
PMBHAN103	Shift materials safely by hand	
PMBPROD247	Hand lay up composites	
PMBPROD280	Operate resin-glass depositor equipment	
TLID2010	Operate a forklift	

Group C units may also be chosen from the Group C units in the PMA and PMB Certificates III and Group B2 units in the PMC Certificate III.

A maximum of **three (3)** relevant units may be selected from this Training Package, other endorsed Training Packages and accredited courses, where they are packaged in a Certificate II, III or IV.

Qualification Mapping Information

Release 4. Minor adjustment to elective units. Equivalent.

Release 3. Imported units updated to current versions. Equivalent.

Release 2. Duplicated information re importation allowance removed. Imported units updated to current versions. Equivalent.

Release 1. Supersedes and is equivalent to MSA40311 Certificate IV in Process Manufacturing.

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Links

Companion Volume Implementation Guides are available at VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=d1287d36-dff4-4e9f-ad2c-9d6270054027

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MSM41015 Certificate IV in Recreational Vehicles

Modification History

Release 6. Imported units updated to current versions. Equivalent.

Release 5. Minor adjustment to elective units. Equivalent.

Release 4. Imported units updated to current versions. Equivalent.

Release 3. Imported units updated to current versions. Equivalent.

Release 2. Imported units updated to current version. Equivalent.

Release 1. Supersedes and is equivalent to MSA40510 Certificate IV in Recreational Vehicles.

Qualification Description

The MSM41015 Certificate IV in Recreational Vehicles has been developed as a post-trade level qualification. People with this qualification would be expected to lead work teams and provide supervision of people undertaking the manufacture, service and repair of recreational vehicles, including:

- motor homes
- caravans
- camper trailers
- slide-ons
- fifth wheelers

to meet Australian requirements, such as road worthiness and the Australian Design Rule (ADR). They will provide technical leadership as well as undertake some tasks themselves.

They may work in a service and repair facility or a manufacturer's factory. Work may include building a new recreational vehicle, repairs for an insurance claim or other repairs, modifying an existing recreational vehicle or undertaking routine servicing.

They may work in a large manufacturing organisation or a small workshop.

There are no specific licences that relate to this qualification. However, some units in this qualification may have licensing or regulatory requirements depending on the work context. Local regulations should be checked for details.

Entry Requirements

There are no entry requirements for this qualification.

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Packaging Rules

To be awarded the MSM41015 Certificate IV in Recreational Vehicles, competency must be achieved in thirty-two (32) units of competency:

- **three (3)** core units of competency
- **twenty-nine (29)** elective units of competency, as specified below:
  - a minimum of **two (2)** units of competency must be selected from Group A
  - a maximum of **fourteen (14)** units of competency may be selected from Group C and D, with a maximum of **six (6)** from Group D
  - the balance of units, must be selected from Groups A and B to bring the total to twenty-nine (29).

Note: Up to **seven (7)** elective units of competency may be selected from this Training Package, other endorsed Training Packages and accredited courses, as specified in Groups A, B, C and D.

Note: Where prerequisite units are identified they must be counted in the total number of units required for achievement of the qualification.

Core units

Complete all **three (3)** units from the following list.

Unit code	**Unit title**
MSMENV272	Participate in environmentally sustainable work practices
MSMSUP102	Communicate in the workplace
MSMWHS200	Work safely

ELECTIVE UNITS

Group A Elective units

Select a minimum of **two (2)** units from the following list.

Unit code	**Unit title**	**Prerequisites**
AURATA005	Estimate and quote automotive mechanical and	

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	electrical repairs	
AURANN011	Estimate and quote automotive body repairs	
AURVTN032	Determine vehicle body damage and recommend repair procedures	
MEM03006B	Set assembly stations	MEM03001B MEM18001C MEM03003B MEM18002B MEM03004B
MEM16012A	Interpret technical specifications and manuals	
MSMRVS401	Assess and quote to service a recreational vehicle	

Up to **one (1)** relevant Group A elective unit of competency may be selected from this Training Package, other endorsed Training Packages and accredited courses, where it is available for inclusion at Certificate IV qualification.

Group B - Elective units

Unit code	**Unit title**	**Prerequisites**
AUMGTT001	Apply trim to vehicle components	
AURETR015	Inspect, test and service batteries	
AURETR012	Test and repair basic electrical circuits	
AURETB001	Diagnose and repair electric braking systems	
AURTTB001	Inspect and service braking systems	
AURTTD004	Inspect and service suspension systems	
AURTTJ012	Remove, inspect and refit wheel hubs and associated brake components	
AURTTA017	Carry out vehicle safety inspections	

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AURVTS004	Repair vehicle composite material components	
AURTTY001	Repair vehicle chassis, frame and associated components	
AURVTT015	Fabricate and install canvas products for automotive and marine components	
AURVTT019	Fabricate and install automotive and marine frames, canopies and side curtains	
CPCPCM2043A	Carry out WHS requirements	
CPCPGS3046A	Install LPG systems in caravans, mobile homes and mobile workplaces	CPCPCM2043A
MEM03001B	Perform manual production assembly	
MEM05005B	Carry out mechanical cutting	MEM12023A MEM18001C
MEM05012C	Perform routine manual metal arc welding	
MEM05050B	Perform routine gas metal arc welding	
MEM07024B	Operate and monitor machine/process	
MEM07028B	Operate computer controlled machines/ processes	MEM07024B
MEM10002B	Terminate and connect electrical wiring	MEM09002B MEM12002B MEM18001C
MEM12002B	Perform electrical/electronic measurement	
MEM12023A	Perform engineering measurements	
MEM18038B	Maintain wheels and tyres	MEM18001
MEM18045B	Fault find/repair electrical equipment/components up to 250 volts single phase supply	MEM09002B MEM10002B MEM12002B MEM12023A MEM18001C

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		MEM18002B
MSMOPS101	Make measurements	
MSMRV310	Fit recreational vehicle floor	
MSMRV311	Fit furniture in a recreational vehicle	
MSMRV312	Fit water systems in a recreational vehicle	
MSMRV313	Fit 12 V cable systems in a recreational vehicle	
MSMRV314	Construct and fit roof to a recreational vehicle	
MSMRV315	Construct and fit slide out in a recreational vehicle	
MSMRV316	Fit appliances in a recreational vehicle	
MSMRV317	Install solar equipment on a recreational vehicle	
MSMRV318	Fit cladding to a recreational vehicle	
MSMRV319	Fit front and rear moulds to a recreational vehicle	
MSMRV320	Fit windows and doors to a recreational vehicle	
MSMRV321	Fit required external items to a recreational vehicle	
MSMRV322	Fit required external electrical components to a recreational vehicle	
MSMRV323	Fit required internal items to a recreational vehicle	
MSMRV324	Conduct final quality inspection for a recreational vehicle	
MSMRV325	Fabricate a chassis and suspension for a recreational vehicle	
MSMRV365	Remove and refit body moulding	
MSMRV366	Fit transfers and decals to a recreational vehicle	
MSMRVS202	Repair/service LPG systems in a recreational vehicle	

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Up to **two (2)** relevant Group B elective units of competency may be selected from this Training Package, other endorsed Training Packages and accredited courses, where they are available for inclusion at Certificate III qualification.

Group C Elective units

Unit code	Unit title	Prerequisites
MEM13002B	Undertake occupational health and safety activities in the workplace	
MEM13010A	Supervise occupational health and safety in an industrial work environment	MEM13002B
MEM14001B	Schedule material deliveries	
MEM14002B	Undertake basic process planning	
MEM14003B	Undertake basic production scheduling	
MEM16002C	Conduct formal interviews and negotiations	
MEM16006A	Organise and communicate information	
MEM30013A	Assist in the preparation of a basic workplace layout	
MSMENV472	Implement and monitor environmentally sustainable work practices	
MSMSUP200	Achieve work outcomes	
MSMSUP383	Facilitate a team	
MSMSUP390	Use structured problem-solving tools	
MSS402002	Sustain process improvements	
MSS402081	Contribute to the application of a proactive maintenance strategy	
MSS403085	Ensure process improvements are sustained	

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MSS403011	Facilitate implementation of competitive systems and practices	
MSS403021	Facilitate a Just in Time system	
MSS403040	Facilitate and improve implementation of 5S	
MSS403041	Facilitate breakthrough improvements	
MSS403087	Mistake proof an operational process	
MSS404082	Assist in implementing a proactive maintenance strategy	

Up to **two (2)** relevant Group C elective units of competency may be selected from this Training Package, other endorsed Training Packages and accredited courses, where they are available for inclusion at Certificate IV qualification.

Group D Elective units

Unit code	**Unit title**	**Prerequisites**
MEM09002B	Interpret technical drawing	
MEM11010B	Operate mobile load shifting equipment	
MEM14004A	Plan to undertake a routine task	
MEM15024A	Apply quality procedures	
MEM18001C	Use hand tools	
MEM18002B	Use power tools/hand held operations	
MSMOPS102	Perform tasks to support production	
MSMOPS200	Operate equipment	
MSMOPS212	Use organisation computers or data systems	
MSMPER200	Work in accordance with an issued permit	
MSMRVT201	Apply technical knowledge of recreational	

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	vehicle manufacturing to work activities	
MSMSUP100	Apply workplace context to own job	
MSMSUP101	Clean workplace or equipment	
MSMSUP106	Work in a team	
MSMSUP240	Undertake minor maintenance	
MSMSUP273	Handle goods	
MSMSUP280	Manage conflict at work	
MSMSUP291	Participate in continuous improvement	
MSMWHS110	Follow emergency response procedures	
MSMWHS205	Control minor incidents	
MSS402021	Apply Just in Time procedures	
MSS402040	Apply 5S procedures	
MSS402080	Undertake root cause analysis	
PMBHAN103	Shift materials safely by hand	
TLID2010	Operate a forklift	
Up to **two (2)** relevant Group D elective units of competency may be selected from this Training Package, other endorsed Training Packages and accredited courses, where they are available for inclusion at Certificate II or III qualification.		

Qualification Mapping Information

Release 6. Imported units updated to current versions. Equivalent.

Release 5. Minor adjustment to elective units. Equivalent.

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Release 1. Supersedes and is equivalent to MSA40510 Certificate IV in Recreational Vehicles.

Links

Companion Volume Implementation Guides are available at VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=d1287d36-dff4-4e9f-ad2c-9d6270054027

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MSM41115 Certificate IV in Recreational Vehicle and Accessories Retailing

Modification History

Release 6. Imported units updated to current versions. Equivalent.

Release 5. Minor adjustment to elective units. Equivalent.

Release 4. Imported units updated to current versions. Equivalent.

Release 3. Imported units updated to current versions. Equivalent.

Release 2. Imported units updated to current version. Equivalent.

Release 1. Supersedes and is equivalent to MSA40710 Certificate IV in Recreational Vehicle and Accessories Retailing.

Qualification Description

The MSM41115 Certificate IV in Recreational Vehicle and Accessories Retailing has been developed as a post-trade level qualification. People with this qualification would be expected to lead sales teams and provide supervision of people in the sale of recreational vehicles and accessories, including:

- motor homes
- caravans
- camper trailers
- slide-ons
- fifth wheelers.

They will provide technical leadership as well as undertake some tasks themselves.

They may work in a service and repair facility or a manufacturer's factory undertaking sales work. Sales may be for a new recreational vehicle, a second-hand/refurbished recreational vehicle or spare parts and accessories. In some cases selling of the recreational vehicle may also include possible modifications that could be made to the recreational vehicle.

There are no specific licences that relate to this qualification. However, some units in this qualification may have licensing or regulatory requirements depending on the work context. Local regulations should be checked for details.

Entry Requirements

There are no entry requirements for this qualification.

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Packaging Rules

To be awarded the MSM41115 Certificate IV in Recreational Vehicle and Accessories Retailing competency must be achieved in **thirty-two (32)** units of competency:

- **three (3)** core units of competency
- **twenty-nine (29)** elective units of competency, as specified below:
  - a minimum of **two (2)** units of competency must be selected from Group A
  - a maximum of **fourteen (14)** units of competency may be selected from Groups C and D, with a maximum of **six (6)** from Group D
  - the balance of units, must be selected from Groups A and B to bring the total to **twenty-nine (29)**.

Note: Up to **seven (7)** relevant units of competency may be selected from this Training Package, other endorsed Training Packages and accredited courses, as specified in Groups A, B, C and D.

Note: Where prerequisite units are identified they must be counted in the total number of units required for achievement of the qualification.

Core units

Complete all **three (3)** units from the following list.

Unit code	**Unit title**
MSMENV272	Participate in environmentally sustainable work practices
MSMSUP102	Communicate in the workplace
MSMWHS200	Work safely

Group A Elective units

Select a minimum of **two (2)** units from the following list.

Unit code	**Unit title**	**Prerequisites**
AURACA002	Manage complex customer requirements in an automotive workplace	

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AURATA005	Estimate and quote automotive mechanical and electrical repairs	
AURANN011	Estimate and quote automotive body repairs	
AURVTN032	Inspect vehicle damage and determine repair procedures	
MEM16003B	Provide advanced customer service	
MEM16012A	Interpret technical specifications and manuals	
SIRRMER003	Coordinate visual merchandising activities	
SITXMPR004	Coordinate marketing activities	

Up to **one (1)** relevant Group A elective unit of competency may be selected from this Training Package, other endorsed Training Packages and accredited courses, where it is available for inclusion at Certificate IV qualification.

Group B Elective units

Unit code	**Unit title**	**Prerequisites**
AUMANA001	Prepare and document quotations	
AURACA001	Respond to customer needs and enquiries in an automotive workplace	
AURACA003	Build customer relations in an automotive workplace	
AURAMA004	Maintain business image in an automotive workplace	
AURAMA005	Manage complex customer issues in an automotive workplace	
AURSCA002	Present automotive products and services for sale	
AURSCA003	Apply sales procedures in an automotive workplace	
AURSCA004	Carry out cash and non-cash payment	

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	operations	
AURSCA005	Sell automotive products and services	
AURSCA006	Promote automotive products and services	
AURSAA001	Process customer complaints in an automotive workplace	
BSBCUS501	Manage quality customer service	
SIRXSLS002	Follow point-of-sale procedures	
SIRXRSK002	Maintain store security	
SIRXPDK001	Advise on products and services	

Up to **two (2)** relevant Group B elective units of competency may be selected from this Training Package, other endorsed Training Packages and accredited courses, where they are available for inclusion at Certificate III qualification.

Group C Elective units

Unit code	**Unit title**	**Prerequisites**
AURAAA002	Determine retail rates for automotive products and services	
AURAFA004	Resolve routine problems in an automotive workplace	
AURAKA002	Adapt work processes to new technologies in an automotive workplace	
AURAMA006	Contribute to planning and implementing business improvement in an automotive workplace	
MEM13002B	Undertake occupational health and safety activities in the workplace	
MEM13010A	Supervise occupational health and safety in an industrial work environment	MEM13002B
MEM15002A	Apply quality systems	

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MEM15004B	Perform inspection	
MEM16002C	Conduct formal interviews and negotiations	
MEM16006A	Organise and communicate information	
MEM22015A	Source and estimate engineering materials requirement's	
MSMENV472	Implement and monitor environmentally sustainable work practices	
MSMRVS401	Assess and quote to service a recreational vehicle	
MSS403040	Facilitate and improve implementation of 5S	
MSMSUP200	Achieve work outcomes	
MSMSUP383	Facilitate a team	
MSMSUP390	Use structured problem-solving tools	
PSPGEN029	Value diversity	
SITXMGT002	Establish and conduct business relationships	
TAEASS401	Plan assessment activities and processes	
TAEASS402	Assess competence	
TAEASS403	Participate in assessment validation	
TAEDEL301	Provide work skill instruction	

Up to **two (2)** relevant Group C elective units of competency may be selected from this Training Package, other endorsed Training Packages and accredited courses, where they are available for inclusion at Certificate III or IV qualification.

Group D Elective units

Unit code	**Unit title**	**Prerequisites**
AURSCA001	Select and supply automotive parts and products	

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AURSLA001	Comply with legal requirements when selling automotive products and services	
AURSBA002	Identify and match uncommon automotive parts	
AURTTA017	Carry out vehicle safety inspections	
HLTAID003	Provide first aid	
MSMOPS212	Use enterprise computers or data systems	
MSMRVG201	Tow a recreational vehicle safely	
MSMRVT201	Apply technical knowledge of recreational vehicles manufacturing to work activities	
MSMSUP100	Apply workplace context to own job	
MSMSUP106	Work in a team	
MSMSUP280	Manage conflict at work	
MSMSUP291	Participate in continuous improvement	
SITXMPR001	Coordinate production of brochures and marketing materials	
SITXMPR002	Create a promotional display or stand	
UEGNSG615	Fill LPG cylinders	
Up to **two (2)** relevant Group D elective units of competency may be selected from this Training Package, other endorsed Training Packages and accredited courses, where they are available for inclusion at Certificate II, III or IV qualification.		

Qualification Mapping Information

Release 6. Imported units updated to current versions. Equivalent.

Release 5. Minor adjustment to elective units. Equivalent.

Release 4. Imported units updated to current versions. Equivalent.

Release 3. Imported units updated to current versions. Equivalent.

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Release 2. Imported units updated to current version. Equivalent.

Release 1. Supersedes and is equivalent to MSA40710 Certificate IV in Recreational Vehicle and Accessories Retailing.

Links

Companion Volume Implementation Guides are available at VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=d1287d36-dff4-4e9f-ad2c-9d6270054027

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MSM50316 Diploma of Production Management

Modification History

Release 4. Minor adjustment to elective units. Equivalent.

Release 3. Imported units updated to current versions. Equivalent.

Release 2. Imported units updated to current versions. Equivalent.

Release 1. Units updated. Supersedes and is equivalent to MSA50311 Diploma of Production Management.

Qualification Description

The MSM50316 Diploma of Production Management provides the skills and knowledge required to plan, direct and coordinate production activities in a manufacturing environment. The qualification has been developed with the process manufacturing sector as a focus. It may also be applied in other organisations in the value chain.

The qualification has been developed on an assumption that competency will be developed through a combination of on and off-the-job learning strategies.

The MSM50315 Diploma of Production Management specifies the competencies required for employment in job roles related to assisting organisations to improve production. Employment outcomes related to this qualification may include roles such as a production or operations manager.

This qualification provides skills that can be applied to the design and control of production systems within an organisation, including:

- planning and scheduling
- tracking and analysing
- directing and operating.

This qualification provides the skills needed to assist organisations to improve production where competitive systems and practices (lean) processes are not fully employed. It therefore complements but does not duplicate qualifications supplying skills related to competitive systems and practices. Where these skills are required the MSS50312 Diploma of Competitive Systems and Practices should be considered.

This qualification can be accessed by direct entry. However, entrants for the qualification should already possess operational or technical skills related to the organisation seeking production improvements, either through prior relevant experience or qualifications. For this reason the qualification is not suitable as an entry-level qualification for school leavers.

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Entry Requirements

There are no entry requirements for this qualification.

Packaging Rules

To be awarded the MSM50316 Diploma of Production Management, competency must be achieved in **ten (10)** units of competency:

- **one (1)** core unit of competency
- **nine (9)** elective units of competency, chosen as specified below:
  - a minimum of **one (1)** unit must be selected from each of Group A, Group B and Group C
  - the balance of units, to a maximum of **six (6)**, can be selected from:
    - units from Group A, B or C, not previously selected
    - a maximum of **three (3)** relevant units from this Training Package, other endorsed Training Packages and accredited courses, where those units are packaged in a Diploma.

Note: Where prerequisite units are identified they must be counted in the total number of units required for achievement of the qualification.

Core units

Unit code	**Unit title**
MSMENV472	Implement and monitor environmentally sustainable work practices

ELECTIVE UNITS

Group A Elective units

Unit code	**Unit title**	**Prerequisites**
BSBFIM501	Manage budgets and financial plans	

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FNSORG501	Develop and manage a budget	
MEM14001B	Schedule material deliveries	
MSMOPS401	Trial new process or product	
MSMSUP330	Develop and adjust a production schedule	
MSS404060	Facilitate the use of planning software systems in a work area or team	
MSS405003	Manage a value stream	
MSS405022	Design a process layout	
MSS405030	Optimise cost of product or service	
MSS405060	Develop the application of enterprise control systems in an organisation	
MSS405075	Facilitate the development of a new product	MSS404052
PSPHRM004	Implement workforce planning and succession strategies	
TLIL4059	Implement asset management systems	
TLIL5055	Manage a supply chain	
TLIP4013	Implement and monitor logistics planning and process	
TLIR4008	Implement and supervise stocktaking procedures	
TLIR4009	Implement purchasing systems	
TLIR4010	Plan purchasing	
TLIR5006	Develop, implement and review purchasing strategies	
TLIX5015	Establish supply chains	

Group B Elective units

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Unit code	Unit title	Prerequisites
BSBMGT403	Implement continuous improvement	
MEM11007B	Administer inventory procedures	
MEM11015B	Manage warehouse inventory system	MEM11007B MEM15002A
MEM15002A	Apply quality systems	
MSMSUP390	Use structured problem-solving tools	
MSMSUP400	Develop and monitor quality systems	
MSL936003	Maintain quality system and continuous improvement processes within work or functional area	
MSS402082	Apply cost factors to work practices	
MSS404052	Apply statistics to operational processes	
MSS405031	Undertake value analysis of a product or process costs in terms of customer requirements	
MSS405032	Analyse cost implications of maintenance strategy	
MSS405050	Determine and improve process capability	MSS404052
MSS405053	Manage application of six sigma for process control and improvement	MSS404052
MSS405061	Determine and establish information collection requirements and processes	
MSS405081	Develop a proactive maintenance strategy	
MSS405082	Adapt a proactive maintenance strategy to the process operations sector	MSS405081
PMAOPS500	Optimise production systems	

Group C Elective units

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Unit code	Unit title	Prerequisites
BSBADM502	Manage meetings	
BSBINM501	Manage an information or knowledge management system	
BSBLED401	Develop teams and individuals	
BSBLDR402	Lead effective workplace relationships	
BSBMGT401	Show leadership in the workplace	
BSBMGT502	Manage people performance	
BSBMGT605	Provide leadership across the organisation	
BSBWHS401	Implement and monitor WHS policies, procedures and programs to meet legislative requirements	
BSBWRK520	Manage employee relations	
BSBWRT401	Write complex documents	
MEM11007B	Administer inventory procedures	
MEM11012B	Purchase materials	
MSMENV672	Develop workplace policy and procedures for environmental sustainability	
MSMWHS401	Assess risk	
MSMWHS503	Maintain the workplace WHS management system	
MSMWHS510	Manage risk	
MSL915003	Provide information to customers	
MSS015022	Develop strategies for more sustainable use of resources	
MSS014009	Evaluate sustainability impact of a work or process area	
MSS405084	Manage people relationships	

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MSS405012	Manage workplace learning	
MSS405041	Implement improvement systems in an organisation	
MSS405086	Develop sustainable energy practices	
PMASUP520	Review procedures to minimise environmental impact of process	
PMASUP620	Manage environmental management system	
TLIA5058	Manage facility and inventory requirements	
TLIR4003	Negotiate a contract	
TLIR5005	Manage a contract	
A maximum of **three (3)** relevant units may be selected from this Training Package, other endorsed Training Packages and accredited courses, where those units are packaged in a Diploma.		

Qualification Mapping Information

Release 4. Minor adjustment to elective units. Equivalent.

Release 3. Imported units updated to current versions. Equivalent.

Release 2. Imported units updated to current versions. Equivalent.

Release 1. Supersedes and is equivalent to MSA50311 Diploma of Production Management.

Links

Companion Volume Implementation Guides are available at VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=d1287d36-dff4-4e9f-ad2c-9d6270054027

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MSM51015 Diploma of Recreational Vehicles

Modification History

Release 4. Imported units updated to current versions. Equivalent.

Release 3. Imported units updated to current versions. Equivalent.

Release 2. Imported units updated to current version. Equivalent.

Release 1. Supersedes and is equivalent to MSA50510 Diploma of Recreational Vehicles.

Qualification Description

The MSM51015 Diploma of Recreational Vehicles has been developed to reflect the role of senior technicians and managers in a recreational vehicle manufacturing, repair or service organisation. People with this qualification would be expected to undertake technical projects and/or manage departments or entire organisations undertaking the manufacture, service and repair of recreational vehicles, including:

- motor homes
- caravans
- camper trailers
- slide-ons
- fifth wheelers.

They may work in a service and repair facility or a manufacturer's factory. The organisation may build new recreational vehicles, repair recreational vehicles for insurance claims, modify existing recreational vehicles or undertake routine servicing.

They may work in a large manufacturing organisation or a smaller workshop.

There are no specific licences that relate to this qualification. However, some units in this qualification may have licensing or regulatory requirements depending on the work context. Local regulations should be checked for details.

Entry Requirements

There are no entry requirements for this qualification.

Packaging Rules

To be awarded the MSM51015 Diploma of Recreational Vehicles, competency must be achieved in **ten** (10) units of competency:

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- **three (3)** core units of competency
- **seven (7)** elective units of competency, as specified below:
  - a minimum of **two (2)** units of competency must be selected from Group A
  - the balance of units, to a maximum of **five (5)**, may be selected from:
    - units not previously selected from Group A
    - Group B units listed below.

Note: Up to **two (2)** elective units of competency may be selected from this Training Package, other endorsed Training Packages and accredited courses, as specified in Groups A and B.

Note: Where prerequisite units are identified they must be counted in the total number of units required for achievement of the qualification.

Core units

Complete all **three (3)** units from the following list.

Unit code	**Unit title**
MSMENV272	Participate in environmentally sustainable work practices
MSMSUP210	Process and record information
MSMWHS200	Work safely

ELECTIVE UNITS

Group A Elective units

Select a minimum of **two (2)** units from the following list.

Unit code	**Unit title**	**Prerequisites**
AURVTN032	Inspect vehicle damage and determine repair procedures	
MEM09002B	Interpret technical drawing	
MEM09204A	Prepare basic engineering detail drawings	MEM09002B
MEM09009C	Create 2D drawings using computer-aided	MEM09002B

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	design (CAD) system	MEM16008A
MEM09210A	Create 3-D solid models using computer aided design system	MEM09002B MEM30031A
MEM16008A	Interact with computing technology	
MEM16009A	Research and analyse engineering information	MEM16006A MEM16012A
MEM16012A	Interpret technical specifications and manuals	
MEM30031A	Operate computer-aided design (CAD) system to produce basic drawing elements	
MSS405075	Facilitate the development of a new product	MSS404052

Up to **one (1)** relevant Group A elective unit of competency may be selected from this Training Package, other endorsed Training Packages and accredited courses, where it is available for inclusion at a Diploma level qualification.

Group B Elective units

Unit code	**Unit title**	**Prerequisites**
AUMFTA001	Document manufacturing design processes	
AURALA001	Comply with legal aspects of a service and repair contract in an automotive workplace	
AURAMA006	Contribute to planning and implementing business improvement in an automotive workplace	
AURAFA007	Develop and document specifications and procedures	
AURTNA001	Estimate and quote automotive vehicle or machinery modifications	
BSBFIM501	Manage budgets and financial plans	
MEM11007B	Administer inventory procedures	

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MEM11012B	Purchase materials	
MEM11017B	Organise and lead stocktakes	MEM11007B
MEM14001B	Schedule material deliveries	
MEM15004B	Perform inspection	
MEM15005B	Select and control inspection processes and procedures	MEM15004B
MEM16006A	Organise and communicate information	
MSMENV472	Implement and monitor environmentally sustainable work practices	
MSMSUP400	Develop and monitor quality systems	
MSS404052	Apply statistics to operational processes	
MSS405041	Implement improvement systems in an organisation	
MSS405081	Develop a proactive maintenance strategy	
PSPGEN029	Value diversity	
Up to **one (1)** relevant Group B elective unit of competency may be selected from this Training Package, other endorsed Training Packages and accredited courses where it is available for inclusion at a Diploma level qualification.		

Qualification Mapping Information

Release 4. Imported units updated to current versions. Equivalent.

Release 3. Imported units updated to current versions. Equivalent.

Release 2. Imported units updated to current version. Equivalent.

Release 1. Supersedes and is equivalent to MSA50510 Diploma of Recreational Vehicles.

Links

Companion Volume Implementation Guides are available at VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=d1287d36-dff4-4e9f-ad2c-9d6270054027

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MSMBIO301 Process biomass using pyrolyser

Modification History

Release 1. New unit

Application

This unit describes the skills and knowledge required to operate a pyrolyser to process biomass to produce a range of products. This includes pre-treatment of biomass, feeding and pyrolysis process.

This unit applies to operators who are required to operate all components of the pyrolysis process, identify and rectify operational problems, predict the potential impact of feed changes and facilitate feed changes to meet requirements.

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

Bioprocessing

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 work	1.1 Identify and follow work and safety requirements 1.2 Identify and control hazards 1.3 Check operational status of pyrolyser 1.4 Complete required pre-start checks 1.5 Start up pyrolyser and ancillary equipment in accordance with standard operating procedures
2. Maintain production	2.1 Complete routine checks, logs and paperwork taking appropriate action on unexpected readings

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Elements	Performance Criteria
Elements describe the essential outcomes.	*Performance criteria describe the performance needed to demonstrate achievement of the element.*
	2.2 Check biomass is pre-treated and dried for pyrolyser requirements for production 2.3 Check particle size of biomass is correct for pyrolyser requirements for production 2.4 Feed biomass feedstock into pyrolyser in accordance with standard operating procedures 2.5 Monitor and adjust feed to maintain consistent and stable feed conditions for production 2.6 Monitor additives in accordance with production requirements 2.7 Operate pyrolyser to maintain continuity and production through-put
3. Monitor pyrolyser	3.1 Monitor pyrolyser throughout process 3.2 Identify and act on changes upstream and downstream impacting on process 3.3 Resolve routine problems and maintain safe operating environment 3.4 Shut down pyrolyser in an emergency 3.5 Identify and rectify impact of shut down on process and production
4. Isolate and de-isolate pyrolyser	4.1 Shut down pyrolyser and ancillary equipment in accordance with standard operating procedures 4.2 Isolate pyrolyser and components 4.3 Make safe for required work 4.4 Check pyrolyser is ready to be returned to service 4.5 De-isolate and prepare pyrolyser and components for return to service

Foundation Skills

This section describes those language, literacy, numeracy and employment skills that are essential to performance.

- Reading skills to interpret standards operating procedures.
- Writing skills to complete workplace documentation.

Other foundation skills essential to performance are explicit in the performance criteria of this unit of competency.

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Unit Mapping Information

Release 1. New unit.

Links

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Assessment Requirements for MSMBIO301 Process biomass using pyrolyser

Modification History

Release 1. New unit.

Performance Evidence

There must be evidence the candidate has completed the tasks outlined in the elements and performance criteria of this unit, and:

- processed at least 1 type of biomass to specified requirements using pyrolyser.

Knowledge Evidence

There must be evidence the candidate has knowledge of:

- principles and processes of pyrolysis, including:
  - standard operating procedures
  - biomass pre-treatment
  - thermal cracking of biomass
  - operating condensing unit/chillers to collect bio-oil
  - managing oxygen free environment in pyrolyser
- pyrolysis equipment including:
  - biomass storage and drying
  - pyrolyser and its components
  - ancillary equipment
  - feed system (auger, belt or cart)
  - air lock
  - condensing system
- advantages and disadvantages of pyrolysis
- biomass types, including:
  - solid (greenwaste, bagasse, woodwaste, construction and domestic waste, plastics, tyres)
  - key variables
  - dewatering requirements
  - particle size requirements
  - yields
- the nature and condition of materials entering and leaving each stage of the process, the changes which have occurred in that stage and why they have occurred

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- methods of ramping up and down in response to feed changes and the advantages and disadvantages of each
- hierarchy of control
- start up, operation and shut down of equipment including emergency shut down, isolation and de-isolation procedures
- work health safety (WHS) procedures including personal protective equipment (PPE) requirements
- pyrolysis hazards, and:
  - their possible causes
  - potential consequences
  - appropriate risk controls.

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:
  - biomass, pyrolyser, PPE
- modelling of industry operating conditions, including:
  - routine and non-routine problems.

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

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MSMBIO302 Ferment biomaterial to produce bioproducts

Modification History

Release 1. New unit

Application

This unit describes the skills and knowledge to undertake bioprocessing using microbial fermentation to prepare biological material for downstream processes.

This unit applies to using bioprocessing to produce a range of commercial bioproducts, such as biofuel, livestock feed and fertiliser.

This unit applies to plant operators and technicians working as part of a team within clearly established parameters and standard operating procedures.

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

Bioprocessing

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 fermentation	1.1 Identify and follow work and safety requirements 1.2 Read and interpret requirements of product specification 1.3 Gather and prepare all materials and documentation 1.4 Clean, sanitise and set up processing area and equipment as required by standards operating procedures 1.5 Check and adjust process control software parameters
2. Operate and monitor	2.1 Complete routine checks, logs and paperwork taking appropriate

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Elements	Performance Criteria
Elements describe the essential outcomes.	*Performance criteria describe the performance needed to demonstrate achievement of the element.*
bioreactor	action on unexpected readings 2.2 Monitor and control equipment, critical parameters, sensors and processes to optimise quality and efficiency 2.3 Identify and resolve problems and hazards with the process and equipment 2.4 Operate and adjust equipment to ferment materials to produce beer in accordance with specification
3. Finalise fermentation process	3.1 Finalise beer to specification 3.2 Sample and test beer for downstream processes 3.3 Pump beer to downstream processes 3.4 Complete required documentation

Foundation Skills

This section describes those language, literacy, numeracy and employment skills that are essential to performance.

- Writing skills to complete workplace documentation.

Other foundation skills essential to performance are explicit in the performance criteria of this unit of competency.

Unit Mapping Information

Release 1. New unit.

Links

Companion Volume implementation guides are found in VETNet. - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=d1287d36-dff4-4e9f-ad2c-9d6270054027

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Assessment Requirements for MSMBIO302 Ferment biomaterial to produce bioproducts

Modification History

Release 1. New unit.

Performance Evidence

There must be evidence the candidate has completed the tasks outlined in the elements and performance criteria of this unit, and:

- followed fermentation processes to produce at least 1 batch of beer to specification.
-

Knowledge Evidence

There must be evidence the candidate has knowledge of:

- bioprocessing concepts, drivers, trends and targets
- principles and processes of fermentation, including standard operating procedures
- advantages and disadvantages of fermentation
- bioproducts and biproducts derived from fermentation, including production requirements and sampling and testing methods
- biological material / biomass, including:
  - pre-fermentation processes, including liquefaction and saccharification
  - fermentation processes
  - feedstock types, sources and uses
  - cultures, microorganisms and additives and their role in fermentation
- process control software and documentation
- fermentation equipment and tools and standard operating procedures, including:
  - critical parameters
  - sensors
  - factors affecting efficient operation of the separation equipment
  - external factors impacting process, including time, temperature, humidity
  - correct methods of starting, stopping, operating and controlling the equipment
  - work health and safety (WHS) procedures including personal protective equipment (PPE) requirements
- fermentation hazards, risks and control measures including:
  - fire and explosion
  - hearing
  - respiratory
  - chemicals

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  - boilers
  - manual handling
  - confined space
  - falls
- cleaning and sanitising procedures and why they are important.

Assessment Conditions

Skills must have been demonstrated in the workplace or in a simulated environment that reflects workplace conditions, contingencies, 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

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MSMBIO303 Distil bioproducts

Modification History

Release 1. New unit

Application

This unit of competency describes the skills and knowledge to undertake bioprocessing distillation procedures to achieve required purity and product concentrations by the removal of impurities following bioprocessing in the manufacture of bioproducts.

This unit applies to using bioprocessing to produce a range of commercial bioproducts, such as biofuel, livestock feed and fertiliser.

This unit applies to plant operators and technicians working as part of a team within clearly established parameters and standard operating procedures.

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

Bioprocessing

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 bioprocessing distillation	1.1 Identify and follow work and safety requirements 1.2 Read and interpret requirements of product specification 1.3 Gather and prepare all materials and documentation 1.4 Clean, sanitise and set up processing area and equipment according to standard operating procedures 1.5 Check and adjust process control software parameters
2. Operate and monitor	2.1 Connect equipment to transfer beer to distillation equipment

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Elements	Performance Criteria
Elements describe the essential outcomes.	*Performance criteria describe the performance needed to demonstrate achievement of the element.*
distillation equipment	according to standard operating procedures 2.2 Complete routine checks, logs and paperwork taking appropriate action on unexpected readings 2.3 Monitor and control equipment, critical parameters, sensors and processes to optimise quality and efficiency 2.4 Identify and resolve problems and hazards with the process and equipment 2.5 Operate equipment to achieve required concentrations in accordance with specification
3. Finalise distillation process	3.1 Monitor separation and collection of retentate for downstream processes 3.2 Pump waste for disposal or recycling 3.3 Complete required documentation

Foundation Skills

This section describes those language, literacy, numeracy and employment skills that are essential to performance.

- Writing skills to complete workplace documentation.

Other foundation skills essential to performance are explicit in the performance criteria of this unit of competency.

Unit Mapping Information

Release 1. New unit.

Links

Companion Volume implementation guides are found in VETNet. - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=d1287d36-dff4-4e9f-ad2c-9d6270054027

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Assessment Requirements for MSMBIO303 Distil bioproducts

Modification History

Release 1. New unit

Performance Evidence

There must be evidence the candidate has completed the tasks outlined in the elements and performance criteria of this unit, and:

- followed distillation processes for at least 1 batch to specification.

Knowledge Evidence

There must be evidence the candidate has knowledge of:

- distillation principles
- distillation process, equipment and tools, including standard operating procedures
- retentate/retained product
- standard operating procedures
- work health safety (WHS) procedures and personal protective equipment (PPE) requirements
- process control software and documentation
- distillation hazards, risks and control measures, including:
  - fire and explosion
  - hearing
  - respiratory
  - chemicals
  - boilers
  - manual handling
  - confined space
  - falls
- how to handle, store and transport materials and wastes
- cleaning and sanitising procedures and why they are important
- disposal and recycling procedures.

Assessment Conditions

Skills must have been demonstrated in the workplace or in a simulated environment that reflects workplace conditions, contingencies, facilities, equipment and resources.

Assessors must satisfy the NVR/AQTF mandatory competency requirements for assessors.

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Links

Companion Volume implementation guides are found in VETNet. - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=d1287d36-dff4-4e9f-ad2c-9d6270054027

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MSMBIO304 Separate and recover bioproducts

Modification History

Release 1. New unit

Application

This unit describes the skills and knowledge to undertake separation and recovery bioprocessing procedures to prepare product and biproducts for downstream processes.

This unit applies to using bioprocessing to produce a range of commercial bioproducts, such as biofuel, livestock feed and fertiliser.

This unit applies to plant operators and technicians working as part of a team within clearly established parameters and standard operating procedures.

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

Bioprocessing

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 separation and recovery	1.1 Identify and follow work and safety requirements 1.2 Read and interpret requirements of product specification 1.3 Gather and prepare all materials and documentation 1.4 Clean, sanitise and set up processing area and equipment according to standard operating procedures 1.5 Check and adjust process control software parameters
2. Operate and monitor separation and recovery	2.1 Pump stillage to separation processing area

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Elements	Performance Criteria
Elements describe the essential outcomes.	*Performance criteria describe the performance needed to demonstrate achievement of the element.*
equipment	2.2 Complete routine checks, logs and paperwork taking appropriate action on unexpected readings 2.3 Monitor and control equipment, critical parameters, sensors and processes to optimise quality and efficiency 2.4 Identify and resolve problems and hazards with the process and equipment 2.5 Operate equipment to separate and recover product according to specification
3. Finalise batch separation processes	3.1 Evaporate batch according to specification 3.2 Pump product and waste to downstream processes 3.3 Complete required documentation

Foundation Skills

This section describes those language, literacy, numeracy and employment skills that are essential to performance.

- Writing skills to complete workplace documentation

Other foundation skills essential to performance are explicit in the performance criteria of this unit of competency.

Unit Mapping Information

Release 1. New unit.

Links

Companion Volume implementation guides are found in VETNet. - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=d1287d36-dff4-4e9f-ad2c-9d6270054027

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Assessment Requirements for MSMBIO304 Separate and recover bioproducts

Modification History

Not applicable.

Performance Evidence

There must be evidence the candidate has completed the tasks outlined in the elements and performance criteria of this unit, and:

- followed processes to separate and recover at least 1 batch of bioproduct.

Knowledge Evidence

There must be evidence the candidate has knowledge of:

- bioprocessing products derived from separation and recovery process
- separation and recovery processes, equipment and tools, including:
  - standard operating procedures
  - sensors
  - factors affecting efficient operation of the equipment
  - correct methods of starting, stopping, operating and controlling the equipment
  - physics of operation, including behaviour of solids, liquids and gases, effects of phase changes, and effects of temperature and pressure
  - function and troubleshooting of major internal components, including contaminants, supports, nozzles and grids; and typical problems
  - process parameters and limits, including temperature, pressure, flow and pH
  - work health and safety (WHS) procedures including personal protective equipment (PPE) requirements
- environmental risks and protection policies
- process control software and documentation
- how to handle, store and transport materials and wastes
- separation and recovery hazards, risks and control measures, including:
  - fire and explosion
  - hearing
  - respiratory
  - chemicals
  - boilers
  - manual handling
  - confined space
  - falls

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- cleaning and sanitising procedures and why they are important.

Assessment Conditions

Skills must have been demonstrated in the workplace or in a simulated environment that reflects workplace conditions, contingencies, 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

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AUMANA001 Prepare and document quotations

Modification History

Release	Comment
Release 1	Unit updated to reflect the new standards for Training Packages Replaces AUMANA3001 Prepare and document quotation

Application

This unit describes the performance outcomes required to determine job requirements and produce a quotation for a customer.

It applies to those in an automotive environment.

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

Competency Field

Manufacturing - Common

Unit Sector

Loss Assessment or Repair Quoting

Elements and Performance Criteria

Elements Elements describe the essential outcomes	**Performance Criteria** 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. Determine customer requirements	1.1 Customer requirements are established and job parameters specified according to workplace procedures 1.2 Customer requirements are compared with existing workplace products and services 1.3 Variations required by the customer are established
2. Estimate the job	2.1 Variations from standard workplace product or service are identified and estimated

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Elements	Performance Criteria
	2.2 Additional processes, parts and skills required to meet customer requirements are estimated 2.3 Workplace job costing procedures, including ***cost-reduction initiatives***, are used to estimate materials, parts, labour and equipment costs for the job 2.4 Estimates for contingencies and changed work requirements are included in the total job cost
3. Document and confirm quotation	3.1 Quotation is prepared and confirmed with client according to workplace procedures 3.2 Customer purchase and payment arrangements are negotiated 3.3 Changes and variations are negotiated to meet customer and workplace needs 3.4 Workplace record and customer file are processed according to workplace procedures

Foundation Skills

This section describes those language, literacy, numeracy and employment skills that are essential to performance.

Skills	Description
Reading skills to:	• identify job and customer requirements • interpret workplace procedures and specifications relating to quotation.
Writing skills to:	• produce job requirements and material lists • legibly complete quotation, associated workplace records and customer file.
Oral communication skills to:	• communicate and negotiate with customers.
Numeracy skills to:	• identify customer specifications • determine job budget including, materials, parts, labour and equipment costs • estimate contingencies and changed work requirements • produce a quotation that has mathematical information legibly embedded.
Planning and organising skills to:	• determine order and timing of processes.
Problem-solving skills to:	• determine process needed to fulfil customer product or service

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Skills	Description
	requirements.

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.

Cost-reduction initiatives must include:	• continuous improvement programs • waste avoidance.

Unit Mapping Information

No equivalent unit.

Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=bd587669-08b3-4cd5-85f0-f9fa0c6304c1

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Assessment Requirements for AUMANA001 Prepare and document quotations

Modification History

Release	Comment
Release 1	Unit updated to reflect the new standards for Training Packages Replaces AUMANA3001 Prepare and document quotation

Performance Evidence

Before competency can be determined, individuals must have competently prepared and documented a quotation on a minimum of three occasions.

Individuals must demonstrate they can:

- prepare a detailed estimate of job labour, parts, equipment and materials based on customer requirements
- accurately estimate the job, allowing for contingencies
- prepare a detailed, legible quotation document
- follow workplace procedures when preparing and processing the quotation.

Knowledge Evidence

Individuals must be able to demonstrate knowledge of:

- procedures for determining and negotiating customer requirements in order to prepare a quotation
- procedures for planning and estimating a job, 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.

Assessment Conditions

Assessors must satisfy SNR/AQTF assessor requirements.

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

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Where assessment of competency includes third-party evidence, individuals must provide evidence that links them to quotations they have prepared.

Assessors must verify performance evidence through questioning on skills and knowledge to ensure correct interpretation and application.

The following resources must be made available:

- automotive manufacturing workplace or simulated workplace
- real or simulated customer product or service requiring a quotation
- workplace documentation for estimating and preparing a quotation
- workplace procedures for preparing and processing a quotation.

Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=bd587669-08b3-4cd5-85f0-f9fa0c6304c1

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=bd587669-08b3-4cd5-85f0-f9fa0c6304c1

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AUMFTA001 Document manufacturing design processes

Modification History

Release	Comment
Release 1	Unit updated to reflect the new standards for Training Packages Replaces AUMFTA3001 Document designs

Application

This unit describes the performance outcomes required to document the design details of the production processes of vehicles and their components.

It applies to those in an automotive and related manufacturing environment and involves the application of skills and knowledge at a specialist level.

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

Competency Field

Manufacturing - Passenger Vehicle

Unit Sector

Technical

Elements and Performance Criteria

Elements Elements describe the essential outcomes	**Performance Criteria** 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. Identify document needs	1.1 Design brief and ***requirements*** are identified and confirmed with appropriate personnel 1.2 Production processes, drawings, technical specifications and instructions are identified and clarified with participating personnel

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Elements	Performance Criteria
2. Develop draft documents	2.1 Draft ***documents*** relating to the specification, costing, manufacture and assembly of products are prepared according to workplace procedures 2.2 Draft document content is confirmed with relevant personnel and their feedback integrated as appropriate
3. Finalise documentation process	3.1 Approved documents are communicated to relevant production, management and engineering personnel 3.2 Documents are distributed and stored according to workplace procedures

Foundation Skills

This section describes those language, literacy, numeracy and employment skills that are essential to performance.

Skills	Description
Reading skills to:	• interpret production and work area requirements • interpret workplace procedures and product specifications • interpret design brief.
Writing skills to:	• legibly complete design documents.
Oral communication skills to:	• communicate and negotiate with workplace personnel on document design and content.
Numeracy skills to:	• quantify workplace document needs • determine document budget, materials and resources • produce a document with mathematical information.
Digital literacy skills to:	• use workplace computer programs and design applications.
Initiative skills to:	• adapt to document design requirements.
Planning and organising skills to:	• manage document research, design and development time.
Problem-solving skills to:	• identify problems, particularly in production, to meet performance indicators • access, interpret and apply workplace procedures and instructions to ensure documents meet workplace template requirements and standards.
Teamwork skills to:	• work in a design consultation process.

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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.

Requirements must include:	• design quality • materials • production processes • testing and costing.
Documents must include:	• budgets • material requirements • production processes • resources • specified parameters • test requirements • timelines.

Unit Mapping Information

No equivalent unit.

Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=bd587669-08b3-4cd5-85f0-f9fa0c6304c1

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Assessment Requirements for AUMFTA001 Document manufacturing design processes

Modification History

Release	Comment
Release 1	Unit updated to reflect the new standards for Training Packages Replaces AUMFTA3001 Document designs

Performance Evidence

Before competency can be determined, individuals must have competently developed and designed workplace documents on a minimum of two occasions.

Individuals must demonstrate they can:

- comply with workplace procedures when designing production documents
- apply working knowledge of production practices and systems
- identify design requirements
- communicate with internal personnel to seek their input into and approval of documents
- design and modify documents
- incorporate design quality, materials, production processes, testing and costing into document design process
- complete, disseminate and store design documents.

Knowledge Evidence

Individuals must be able to demonstrate knowledge of:

- workplace documents covering procedures, specifications, schedules, quality instructions, procedures and performance indicators
- workplace communication protocols for developing and disseminating design documentation
- processes to identify design requirements
- processes to identify critical product quality, materials, tests and costing
- processes for developing and storing documents.

Assessment Conditions

Assessors must satisfy SNR/AQTF assessor requirements.

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

Where assessment of competency includes third-party evidence, individuals must provide evidence that links them to the automotive production documents that they have designed, e.g. a copy of the production documents.

Assessors must verify performance evidence through questioning on skills and knowledge to ensure correct interpretation and application.

The following resources must be made available:

- automotive manufacturing workplace or simulated workplace
- real or simulated automotive production document requirements
- automotive production document design brief and development instructions
- computer system and design software
- workplace procedures relating to the design of automotive production documents.

Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=bd587669-08b3-4cd5-85f0-f9fa0c6304c1

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=bd587669-08b3-4cd5-85f0-f9fa0c6304c1

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AUMGTT001 Apply trim to vehicle components

Modification History

Release	Comment
Release 1	Unit updated to reflect the new standards for Training Packages Replaces AUMGTT2001 Apply trim to components

Application

This unit describes the performance outcomes required to measure, cut and attach trim materials to vehicle components.

It applies to those in an automotive manufacturing environment and involves the application of skills and knowledge at a production worker level.

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

Competency Field

Manufacturing - Bus, Truck and Trailer

Unit Sector

Technical - Trimming and Upholstery

Elements and Performance Criteria

Elements Elements describe the essential outcomes	**Performance Criteria** 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. Plan and prepare	1.1 Work orders, job specifications and working drawings are identified, interpreted and confirmed 1.2 Trim materials, tools and equipment are selected and inspected, and faults repaired or reported
2. Match materials	2.1 Trim materials are matched, measured and cut according to job specifications and workplace procedures

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Elements	Performance Criteria
	2.2 Material characteristics are identified and selected for use 2.3 Attaching or bonding information is identified and interpreted from ***appropriate sources***
3. Attach materials	3.1 ***Workplace procedures*** are identified and followed 3.2 Trim materials are pre-fitted and checked for alignment, appearance and quality according to job specifications 3.3 Trim materials are attached to components by approved methods
4. Complete work processes	4.1 Tools and equipment are cleaned, inspected and stored according to workplace procedures 4.2 Faulty equipment is identified, reported and tagged 4.3 Work areas are cleaned, and unused materials stored 4.4 Waste materials are removed and disposed of or recycled according to workplace environmental procedures 4.5 Work sheets are completed according to workplace procedures

Foundation Skills

This section describes those language, literacy, numeracy and employment skills that are essential to performance.

Skills	Description
Reading skills to:	• interpret work health and safety (WHS) requirements and workplace procedures • interpret machine safe operating procedures • interpret job specifications, work orders and working drawings.
Writing skills to:	• complete work sheets and job schedules • prepare work plans and inspection reports • complete machine maintenance forms • complete faulty equipment tags • complete job consumable lists.
Oral communication skills to:	• confirm work orders and job specifications with appropriate personnel • report faults with materials, tools and equipment.
Numeracy skills to:	• calculate material length, width and height • calculate measurements from working drawings • mark out materials

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	• set trimming machine settings • use measuring equipment • identify common 2D and 3D trim shapes.
Initiative skills to:	• adapt to changing work conditions.
Planning and organising skills to:	• interpret and apply information on job requirements, quality and workplace procedures • plan work from work orders.
Self-management skills to:	• take responsibility for organising own work.
Problem-solving skills to:	• access, interpret and apply information on workplace procedures and instructions.
Teamwork skills to:	• solve problems particularly in teams in order to meet job outcomes.

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.

Appropriate sources must include:	• customer requirements • material and product specifications.
Workplace procedures must include:	• procedures for recording and reporting the application of trim to vehicle components • use of tools and equipment for applying trim to vehicle components • WHS requirements for applying trim to vehicle components • workplace quality standards relevant to applying trim to vehicle components.

Unit Mapping Information

No equivalent unit.

Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=bd587669-08b3-4cd5-85f0-f9fa0c6304c1

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Assessment Requirements for AUMGTT001 Apply trim to vehicle components

Modification History

Release	Comment
Release 1	Unit updated to reflect the new standards for Training Packages Replaces AUMGTT2001 Apply trim to components

Performance Evidence

Before competency can be determined, individuals must have competently applied trim to vehicle components on a minimum of three occasions.

Individuals must demonstrate they can:

- locate, interpret and apply work information and specifications relating to applying trim to vehicle components
- use trimming, bonding and attaching equipment safely
- cut covers and trim to job specifications
- select appropriate bonding and attaching processes for applying trim to vehicle components
- attach trim to vehicle components according to workplace procedures and work health and safety (WHS) requirements
- complete work sheets relating to applying trim to vehicle components.

Knowledge Evidence

Individuals must be able to demonstrate knowledge of:

- WHS requirements relevant to applying trim to vehicle components
- procedures for trim matching, measuring and calculating required trim dimensions
- trim cutting procedures
- trim application and removal methods
- trim adjustment methods
- types and use of materials and equipment relevant to applying trim to vehicle components, including:
  - glues
  - rivets
  - trim cutting equipment
  - trim forming equipment

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  - trim stapling equipment
- sewing procedures of vehicle trim.

Assessment Conditions

Assessors must satisfy SNR/AQTF assessor requirements.

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

Where assessment of competency includes third-party evidence, individuals must provide evidence that links them to the vehicle components to which they have applied trim, e.g. production work sheets.

Assessors must verify performance evidence through questioning on skills and knowledge to ensure correct interpretation and application.

The following resources must be made available:

- automotive manufacturing workplace or simulated workplace
- trim application work sheets, instructions and job specifications
- vehicle trimming materials, equipment and consumables
- vehicle components that require trimming
- personal protective equipment (PPE) relevant to applying trim to vehicle components.

Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=bd587669-08b3-4cd5-85f0-f9fa0c6304c1

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=bd587669-08b3-4cd5-85f0-f9fa0c6304c1

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AURAAA002 Determine retail rates for automotive products and services

Modification History

Release	Comment
Release 1	New unit of competency.

Application

This unit describes the performance outcomes required to calculate fixed and variable costs to determine retail labour rates and cost of products and services for sale in automotive service and repair workplaces.

It applies to those working in administrative and sales areas of an automotive workplace who are required to calculate costs of products and services to ensure business profitability.

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

Competency Field

Common

Unit Sector

Administration

Elements and Performance Criteria

Elements Elements describe the essential outcomes.	**Performance Criteria** Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold and italicised text is used, further information is detailed in the range of conditions section.
1. Determine fixed costs	1.1 Fixed cost components are identified and classified into

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Elements Elements describe the essential outcomes.	**Performance Criteria** Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold and italicised text is used, further information is detailed in the range of conditions section.
	categories 1.2 Past records and business requirements are used to estimate fixed costs for next period 1.3 Fixed administrative and business operation overhead costs are calculated 1.4 Proportion of fixed costs to be included in retail rates is determined
2. Determine labour rate	2.1 Cost components of labour are identified and classified into categories 2.2 Average charge per hour for each identified category is calculated 2.3 Cost component of subcontractors used on jobs is determined and included in calculations for relevant jobs 2.4 ***Hourly labour rates*** are calculated according to workplace procedures
3. Determine variable costs	3.1 Variable costs are identified and calculated using data obtained from accounting records or supplier information 3.2 Required materials are estimated and recorded
4. Determine retail price of products and services	4.1 ***Previous sales figures*** and trends in turnover volume are reviewed 4.2 Competitors' price for similar products or services is researched and reflected in final retail rate 4.3 Retail prices, margins and mark-ups for each product or service category are finalised according to workplace procedures

Foundation Skills

This section describes those language, literacy, numeracy and employment skills that are essential to performance and are not explicit in the performance criteria.

Skills	**Description**
Reading skills to:	• access and research pricing information in order to cost products and services.
Writing skills to:	• legibly and accurately enter data and record information in workplace documentation • prepare quotations and reports based on pricing and costing of

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Skills	Description
	products and services.
Numeracy skills to:	• perform mathematical operations, including, addition, subtraction, multiplication, division, percentages and fractions, relating to quantity and time • use mathematical ideas and techniques to calculate fixed and variable costs, labour rates, and profit margins.
Digital literacy skills to:	• use digital systems and software to access, filter, extract and organise information in order to determine costs and retail rates of work, including spreadsheets and databases.
Self-management skills to:	• follow workplace procedures and prepare retail rates and price information within workplace timeframes.
Problem solving skills to:	• determine pricing to meet workplace requirements relating to profitability and break even points.

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.

Hourly labour rates must include:	• provision for:
	  • fixed costs
	  • on costs.

Previous sales figures must include:	• wholesale cost of product or service • retail price of product or service.

Unit Mapping Information

Equivalent to AURAAA4002 Determine retail rates for work

Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=b4278d82-d487-4070-a8c4-78045ec695b1

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Assessment Requirements for AURAAA002 Determine retail rates for automotive products and services

Modification History

Release	Comment
Release 1	New unit of competency.

Performance Evidence

Before competency can be determined, individuals must demonstrate they can perform the following according to the standards defined in this unit's elements, performance criteria, range of conditions and foundation skills:

- research and compare costs from external suppliers and competitors for:
  - two automotive workplace services
  - one consumable item
  - one automotive accessory product
- calculate retail rates for above products and services.

Knowledge Evidence

Individuals must be able to demonstrate knowledge of:

- basic accounting principles and practices relating to costings:
  - Goods and Services Tax (GST) calculations
  - mark-up, break even and profit calculations
  - simple and compound interest
  - inflation effects
  - straight line depreciation
- factors impacting on pricing products and services:
  - overheads, including accommodation costs, utilities, depreciation, insurances, licences and other business charges
  - labour costs, including on costs covering leave provision, superannuation, training and workers' compensation
  - actual employee chargeable hours
- sources of information on prices and costs:

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  - supplier or component price lists
  - accounting records
  - labour or payroll records
  - purchasing records
  - repair orders and job cards
  - standard repair and warranty times
- key features of workplace software and technology relating to extracting and manipulating data and information.

Assessment Conditions

Assessors must satisfy NVR/AQTF assessor requirements.

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

Assessment must include direct observation of tasks.

Where assessment of competency includes third-party evidence, individuals must provide evidence that links them to determining retail rates for automotive products and services, e.g. itemised calculation of retail rate.

Assessors must verify performance evidence through questioning on skills and knowledge to ensure correct interpretation and application.

The following resources must be made available:

- automotive workplace or simulated workplace
- range of information and data relating to product and service costs, including supplier price lists, workplace sales and service data, financial data and payroll records
- calculator, computer hardware and software, and general office equipment.

Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=b4278d82-d487-4070-a8c4-78045ec695b1

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=b4278d82-d487-4070-a8c4-78045ec695b1

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AURACA001 Respond to customer needs and enquiries in an automotive workplace

Modification History

Release	Comment
Release 1	New unit of competency.

Application

This unit describes the performance outcomes required to identify customer needs and enquiries, and provide effective information and advice when supplying automotive products and services.

It applies to those working in an automotive workplace.

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

Competency Field

Common

Unit Sector

Sales and Marketing

Elements and Performance Criteria

Elements Elements describe the essential outcomes.	**Performance Criteria** Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold and italicised text is used, further information is detailed in the range of conditions section.
1. Identify customer need or enquiry regarding	1.1 Customer is greeted according to workplace procedures and customer service standards

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Elements Elements describe the essential outcomes.	**Performance Criteria** Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold and italicised text is used, further information is detailed in the range of conditions section.
product or service	1.2 Customer requirement relating to specific product or service is identified and ***clarified*** 1.3 Referrals to appropriate personnel are provided where customer need or enquiry is outside scope of own responsibility or authority
2. Provide information and advice to customer	2.1 ***Information*** that addresses customer need or enquiry is provided in a timely, efficient and courteous manner to build a positive relationship and customer loyalty 2.2 Questions are asked to confirm that information satisfies customer need or enquiry 2.3 Outstanding customer requirements are identified and promptly addressed in a courteous and discreet manner, or are referred to appropriate personnel
3. Finalise customer contact	3.1 Customer feedback about product or service is sought and recorded as required according to workplace procedures 3.2 Required follow-up action is completed effectively according to workplace procedures and timeframes 3.3 Customer complaints or dissatisfaction are addressed or escalated to appropriate personnel as required 3.4 Interaction with customer is concluded in line with workplace procedures and customer service standards

Foundation Skills

This section describes those language, literacy, numeracy and employment skills that are essential to performance and are not explicit in the performance criteria.

Skills	**Description**
Writing skills to:	• legibly and accurately fill out workplace documentation • provide information or record customer requirements in relevant forms or documentation.
Oral communication skills to:	• speak clearly to be understood, using appropriate automotive workplace terms • use appropriate visual gestures to assist customer understanding • listen effectively, giving feedback to customer to confirm clear

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Skills	Description
	understanding.
Planning and organising skills to:	• set and monitor timeframes or schedules relating to customer service.
Problem solving skills to:	• identify own role and responsibilities in the workplace • follow workplace procedures for responding to customer enquiries.
Technology skills to:	• operate telephone systems and other communication equipment.

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.

Clarification must include**:**	• open and closed questioning • active listening.
Information must include:	• explaining features and benefits of workplace product or service using clear, jargon-free language • discussing alternative product or service where appropriate • recommending product or service suitable to customer requirements.

Unit Mapping Information

Equivalent to AURACA2001 Establish relations with customers

Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=b4278d82-d487-4070-a8c4-78045ec695b1

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Assessment Requirements for AURACA001 Respond to customer needs and enquiries in an automotive workplace

Modification History

Release	Comment
Release 1	New unit of competency.

Performance Evidence

Before competency can be determined, individuals must demonstrate they can perform the following according to the standards defined in this unit's elements, performance criteria, range of conditions and foundation skills:

- identify needs or enquiries of three different customers with different requirements, including one dissatisfied customer
- provide advice or information on automotive products and services to above customers.

Knowledge Evidence

Individuals must be able to demonstrate knowledge of:

- techniques for assisting customers, including:
  - effective questioning
  - active listening
  - building rapport
  - explaining clear options
  - making recommendations
  - finalising contact
- customer service standards and practices relevant to automotive workplaces, including:
  - greeting and farewelling customers
  - recording customer requirements and enquiries
  - customer service delivery standards
  - contact and follow-up procedures
- indicators of customer dissatisfaction, including verbal and non-verbal cues
- techniques for resolving customer problems, including procedures for complaint escalation

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- key legal requirements relating to customer rights as a consumer, and business obligations under Australian Consumer Law (ACL)
- procedures for making referrals relating to:
  - customer dissatisfaction
  - suppliers of other products and services
- key features and benefits of workplace-specific products and services
- techniques for undertaking basic calculations to provide information to customers relating to quantities, timeframes, and delivery of automotive products and services.

Assessment Conditions

Assessors must satisfy NVR/AQTF assessor requirements.

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

Assessment must include direct observation of tasks.

Where assessment of competency includes third-party evidence, individuals must provide evidence that links them to having responded to customer needs and enquiries, e.g. complaints register.

Assessors must verify performance evidence through questioning on skills and knowledge to ensure correct interpretation and application.

The following must be made available:

- automotive workplace or simulated workplace
- three different customers with different requirements, including one dissatisfied customer.

Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=b4278d82-d487-4070-a8c4-78045ec695b1

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=b4278d82-d487-4070-a8c4-78045ec695b1

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AURACA002 Manage complex customer requirements in an automotive workplace

Modification History

Release	Comment
Release 1	New unit of competency.

Application

This unit describes the performance outcomes required to manage and assist customers with complex automotive industry product or service requirements. It involves confirming customer needs, suggesting options and providing costs, and determining a course of action for customers with complex requirements.

It applies to those working in customer service sales and administrative roles in an automotive workplace.

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

Competency Field

Common

Unit Sector

Sales and Marketing

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 and italicised text is used, further information is detailed in the range of conditions section.

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Elements Elements describe the essential outcomes.	**Performance Criteria** Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold and italicised text is used, further information is detailed in the range of conditions section.
1. Confirm customer requirements	1.1 Collaborative techniques, including active listening and questioning, are used to elicit, clarify and confirm customer requirements 1.2 Customer requirements are clearly and legibly documented according to workplace procedures and organisational legal requirements 1.3 Customer acknowledgement and confirmation of the documented requirements are obtained
2. Advise customer of available options	2.1 Viable options are generated in response to customer needs and workplace legal requirements according to workplace procedures 2.2 Further information is researched as required to confirm or clarify options 2.3 ***Options*** are explained and discussed with customer to assist informed decision making 2.4 Supporting information is provided as required to assist customer understanding 2.5 Sales or service conditions are communicated verbally or in writing according to workplace procedures
3. Agree action plan with customer	3.1 Customer's preferred option is detailed and ***documented in action plan*** 3.2 Customer commitment to agreed action plan is gained according to workplace procedures 3.3 Assistance in completing relevant documentation is provided to customers as required 3.4 Customer feedback is sought on services provided

Foundation Skills

This section describes those language, literacy, numeracy and employment skills that are essential to performance and are not explicit in the performance criteria.

Skills	**Description**
Learning skills to:	• use customer feedback and experience to inform future options and customer dealings.

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Skills	Description
Reading skills to:	• interpret sales or service conditions relating to workplace products and services • research and review information about product and service options that meet customer needs.
Writing skills to:	• legibly and accurately complete workplace action plans, quotations and documentation outlining customer requirements and options.
Oral communication skills to:	• summarise and present key information in presenting options to customers • relate to people from diverse backgrounds using clear language and tone, and unambiguous terminology.
Numeracy skills to:	• use mathematical operations, including addition, subtraction, multiplication, division, and percentages, to determine price and timeframes suitable to customer options.

Digital literacy skills to:	• use digital systems and tools to:
	  • communicate with others
	  • access, search and retrieve information relating to products and services.

Planning and organising skills to:	• use a planned approach to sequence and schedule customer requirements in the action plan.
Problem solving skills to:	• develop solutions unique to a customer and their issue • use conflict resolution techniques to avoid escalation of issues.
Technology skills to:	• use office equipment to prepare written information and to communicate with customers and suppliers via a range of channels.

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.

Options must include:	• benefits • timeframes • approximate costs.
Documented action plan must include:	• agreed delivery timeframe • agreed cost.

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Unit Mapping Information

Equivalent to AURACA3002 Establish customer requirements of a complex nature

Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=b4278d82-d487-4070-a8c4-78045ec695b1

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Assessment Requirements for AURACA002 Manage complex customer requirements in an automotive workplace

Modification History

Release	Comment
Release 1	New unit of competency.

Performance Evidence

Before competency can be determined, individuals must demonstrate they can perform the following according to the standards defined in this unit's elements, performance criteria, range of conditions and foundation skills:

- develop an action plan for three different customers with different complex requirements relating to automotive products or services, which must include:
  - costing details
  - quotation.

Knowledge Evidence

Individuals must be able to demonstrate knowledge of:

- negotiation, communication and problem-solving techniques, including:
  - active listening
  - questioning techniques
  - interpreting body language
  - negotiating or closing a deal
- types of complex customer requirements relating to:
  - cost requirements
  - warranty requirements
  - customised, bespoke, or unusual requirements
  - special timeframes
  - availability of parts or components
  - requirements of special or important customers
  - complex technical problems
  - matters involving more than one solution or area of service

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  - needs of customers dissatisfied with previously provided product or service
  - complex financial or insurance arrangements
- key legal requirements relating to customer rights as a consumer, and business obligations under Australian Consumer Law (ACL), including:
  - anti-discrimination
  - equal opportunity
  - privacy and confidentiality
  - consumer protection and rights
  - freedom of information
- industry codes of practice and ethical principles, including duty of care and consumer access to appeal processes
- workplace policies and procedures relating to:
  - customer service
  - feedback and complaints handling
  - quality requirements
  - documentation and recording procedures
- detailed automotive product and service knowledge relevant to workplace, manufacturers or suppliers
- sources of additional information about automotive products and services, including:
  - manufacturers and suppliers
  - internet and social media
  - competitors.

Assessment Conditions

Assessors must satisfy NVR/AQTF assessor requirements.

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

Assessment must include direct observation of tasks.

Where assessment of competency includes third-party evidence, individuals must provide evidence that links them to having managed complex customer issues in an automotive workplace, e.g. complaints register.

Assessors must verify performance evidence through questioning on skills and knowledge to ensure correct interpretation and application.

The following resources must be made available:

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- automotive workplace or simulated workplace
- workplace procedures relating to customer service
- three different customers with different complex requirements
- commercially realistic workplace with manufacturer and/or supplier product or service information
- computer hardware and software and general office equipment.

Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=b4278d82-d487-4070-a8c4-78045ec695b1

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=b4278d82-d487-4070-a8c4-78045ec695b1

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AURACA003 Build customer relations in an automotive workplace

Modification History

Release	Comment
Release 1	New unit of competency.

Application

This unit describes the performance outcomes required to maintain a customer database, monitor existing customer service processes and operations, and identify opportunities to value add to customer experiences in an automotive workplace.

It applies to those working in the automotive vehicle or component sales and service environment.

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

Competency Field

Common

Unit Sector

Sales and Marketing

Elements and Performance Criteria

Elements Elements describe the essential outcomes.	**Performance Criteria** Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold and italicised text is used, further information is detailed in the range of conditions section.
1. Maintain customer	1.1 Information relating to new customers is uploaded regularly to

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Elements Elements describe the essential outcomes.	**Performance Criteria** Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold and italicised text is used, further information is detailed in the range of conditions section.
database	database according to workplace procedures 1.2 Information relating to existing customers is regularly updated to maintain relevance and currency of database 1.3 Information relating to customers and their sales and service history is accessed and analysed
2. Determine customer value-adding opportunities	2.1 Customer needs and value-adding opportunities are regularly monitored via information accessible on the company database and through informal channels 2.2 Current automotive products and services are assessed against customer needs 2.3 Trends in customer service needs and value-adding opportunities are documented and reported to supervisor
3. Contribute to workplace business operations	3.1 Customer service operations are reviewed with supervisor to check alignment with current customer service requirements 3.2 Recommendations for changes to customer service operations are made following consultation with supervisor

Foundation Skills

This section describes those language, literacy, numeracy and employment skills that are essential to performance and are not explicit in the performance criteria.

Skills	**Description**
Reading skills to:	• interpret textual and numerical information in automotive product and service documentation.
Writing skills to:	• logically structure customer service reports using accurate data and correct spelling and grammar.
Oral communication skills to:	• clearly explain customer needs and product and service information.
Numeracy skills to:	• interpret numerical information relating to percentages and trends over time in workplace databases, charts and documentation.
Problem solving skills to:	• interpret information and recommend improvements to customer service.
Technology skills to:	• operate workplace business technology to prepare reports and

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Skills	Description
	information obtained from workplace database.

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.

There is no Range of Conditions for this unit.

Unit Mapping Information

Equivalent to AURACA3003 Build customer relations

Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=b4278d82-d487-4070-a8c4-78045ec695b1

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Assessment Requirements for AURACA003 Build customer relations in an automotive workplace

Modification History

Release	Comment
Release 1	New unit of competency.

Performance Evidence

Before competency can be determined, individuals must demonstrate they can perform the following according to the standards defined in this unit's elements, performance criteria and foundation skills:

- update and maintain a customer database according to workplace procedures
- provide a report that shows evidence of monitoring and reviewing information relating to customer needs and value-adding opportunities
- provide evidence of conducting one of the following activities to address customer service standards and requirements:
  - staff or team meeting
  - staff or team training session
  - staff or team information session
  - staff or team member feedback or review.

Knowledge Evidence

Individuals must be able to demonstrate knowledge of:

- procedures for using workplace databases, including:
  - accessing database and entering data
  - retrieving data
  - analysing data, including basic statistical processes, including mean, median and mode
  - presenting data, including tables and graphs
- customer service principles and practices relevant to automotive workplaces, including:
  - recording customer requirements and enquiries
  - contact and follow-up procedures
  - feedback and complaints handling, including feedback surveys

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- techniques for value adding to customer services, including creating positive consumer experiences through customer-centred approaches
- procedures for comparing actual customer service operations against expected operations.

Assessment Conditions

Assessors must satisfy NVR/AQTF assessor requirements.

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

Assessment must include direct observation of tasks.

Where assessment of competency includes third-party evidence, individuals must provide evidence that links them to customer relationship building activities in an automotive workplace, e.g. customer feedback surveys.

Assessors must verify performance evidence through questioning on skills and knowledge to ensure correct interpretation and application.

The following resources should be made available:

- automotive workplace or simulated workplace
- office equipment, computer and database software
- customer database containing customer information and data
- workplace procedures relating to customer service and use of database.

Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=b4278d82-d487-4070-a8c4-78045ec695b1

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=b4278d82-d487-4070-a8c4-78045ec695b1

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AURAFA004 Resolve routine problems in an automotive workplace

Modification History

Release	Comment
Release 1	New unit of competency.

Application

This unit describes the performance outcomes required to identify, clarify and resolve routine basic problems commonly encountered in an automotive workplace. It involves determining and implementing solutions to identified problems, and identifying and reporting on their effectiveness.

It applies to those working in the automotive service and repair industry.

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

Competency Field

Common

Unit Sector

Foundation Skills

Elements and Performance Criteria

Elements Elements describe the essential outcomes.	**Performance Criteria** Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold and italicised text is used, further information is detailed in the range of conditions section.
1. Identify and clarify	1.1 Early indicators of ***problems*** are identified or anticipated

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Elements Elements describe the essential outcomes.	**Performance Criteria** Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold and italicised text is used, further information is detailed in the range of conditions section.
nature of the routine problem	1.2 Existence of actual problem is verified 1.3 Information regarding problem is gathered from a variety of sources 1.4 Key components of problem are identified within available timeframe
2. Determine, implement and evaluate solution	2.1 Range of possible methods for resolving the problem are identified 2.2 Strengths and weaknesses of each option are analysed 2.3 Optimal solution is determined and applied within workplace timeframes 2.4 Effectiveness of solution is evaluated against options and modifications to solution are made, as required
3. Assist others to identify, clarify and resolve problems	3.1 Assistance is provided to help others identify routine problems 3.2 Problem is discussed with others and any previous solutions are used to help resolve problem

Foundation Skills

This section describes those language, literacy, numeracy and employment skills that are essential to performance and are not explicit in the performance criteria.

Skills	**Description**
Learning skills to:	• identify own skills and abilities required to perform the job and learning opportunities to gain skills to solve day-to-day problems.
Reading skills to:	• interpret and understand written documentation found in the automotive workplace.
Writing skills to:	• legibly and accurately fill out workplace documentation, such as quality control sheets and graphs, problem solving checklists and reports.
Oral communication skills to:	• speak clearly to be understood • speak using appropriate automotive workplace terms • use appropriate gestures to assist with understanding • listen effectively and give feedback to sender to confirm clear understanding.

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Skills	Description
Teamwork skills to:	• apply knowledge of own role to complete activities efficiently to support team activities and tasks.

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.

Problems must include:	• problems in normal work activities within the scope of own responsibility of that of the work group • problems caused by internal or external changes in work conditions or the work environment.

Unit Mapping Information

Equivalent to AURAFA2004 Solve routine problems in an automotive workplace

Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=b4278d82-d487-4070-a8c4-78045ec695b1

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Assessment Requirements for AURAFA004 Resolve routine problems in an automotive workplace

Modification History

Release	Comment
Release 1	New unit of competency.

Performance Evidence

Before competency can be determined, individuals must demonstrate they can perform the following according to the standards defined in this unit's elements, performance criteria, range of conditions and foundation skills:

- clarify and resolve three of the following routine problems in an automotive workplace caused by:
  - inaccurate or outdated workplace procedure
  - internal changes to work conditions or environment
  - external changes to work conditions or environment
  - additional or non-standard work activities.

Knowledge Evidence

Individuals must be able to demonstrate knowledge of:

- workplace procedures relating to problem identification and resolution strategies
- problem solving methods and techniques, including:
  - brainstorming
  - root cause analysis
  - trial and error approach
  - problem cause and effect strategies
- reporting procedures.

Assessment Conditions

Assessors must satisfy NVR/AQTF assessor requirements.

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

Assessment must include direct observation of tasks.

Where assessment of competency includes third-party evidence, individuals must provide evidence that links them to having solved routine basic problems in their automotive workplace, e.g. workplace memos.

Assessors must verify performance evidence through questioning on skills and knowledge to ensure correct interpretation and application.

The following resources must be made available:

- automotive workplace or simulated workplace
- workplace procedures relating to employee participation in problem solving activities.

Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=b4278d82-d487-4070-a8c4-78045ec695b1

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=b4278d82-d487-4070-a8c4-78045ec695b1

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AURAFA007 Develop and document specifications and procedures

Modification History

Release	Comment
Release 1	New unit of competency.

Application

This unit describes the performance outcomes required to identify and analyse work task requirements and activities, and then develop and document technical specifications and procedures providing concise and unambiguous direction and guidance relating to them.

It applies to those working in the automotive service and repair industry. It involves conducting research and writing technical specifications and procedures at a specialist technician or manager level.

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

Competency Field

Common

Unit Sector

Foundation Skills

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 and italicised text is used, further information is detailed in the range of conditions section.

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Elements Elements describe the essential outcomes.	**Performance Criteria** Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold and italicised text is used, further information is detailed in the range of conditions section.
1. Identify and plan requirements	1.1 Technical activities and tasks requiring specifications and procedures to be developed are identified 1.2 Requirements and formats for specifications and procedures are established and confirmed 1.3 Requirements for information entry, storage, output and quality of document production are identified according to workplace procedures 1.4 Document design is confirmed as appropriate for efficient entry of information and satisfies established document presentation requirements 1.5 Authoritative sources and references are identified for use in preparation of specifications and procedures
2. Prepare and develop specifications	2.1 Technical information for inclusion in specifications is collected and validated according to workplace procedures 2.2 Specifications are developed that reflect document design requirements and are written in a manner appropriate to workplace
3. Prepare and develop procedures	3.1 Technical activities and tasks requiring procedures to be developed are analysed, sequenced and logically grouped 3.2 Technical procedures are developed that reflect document design requirements and are written in a manner appropriate to workplace
4. Document specifications and procedures	4.1 Developed material is documented according to workplace procedures and document design requirements 4.2 Information management requirements, including document storage, are followed according to workplace procedures and document requirements 4.3 Document is presented ready for use as required

Foundation Skills

This section describes those language, literacy, numeracy and employment skills that are essential to performance and are not explicit in the performance criteria.

Skills	**Description**

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Skills	Description
Reading skills to:	• interpret technical information, instructions and requirements in written material as required to carry out technical research activities • interpret and understand a range of written document specifications and procedures found in the automotive workplace.
Writing skills to:	• communicate ideas and information in a manner appropriate to workplace.
Numeracy skills to:	• use standard mathematical terminology and structures to incorporate measurements, calibration and test requirements into technical specifications and procedural documentation.
Digital literacy skills to:	• navigate computer software to collect, add and edit information in documents.
Planning and organising skills to:	• plan and organise the research and writing of technical specifications and procedural requirements to avoid backtracking and workflow interruptions.
Technology skills to:	• use computers and software.

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.

There is no Range of Conditions for this unit.

Unit Mapping Information

Equivalent to AURAFA5007 Develop and document specifications and procedures

Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=b4278d82-d487-4070-a8c4-78045ec695b1

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Assessment Requirements for AURAFA007 Develop and document specifications and procedures

Modification History

Release	Comment
Release 1	New unit of competency.

Performance Evidence

Before competency can be determined, individuals must demonstrate they can perform the following according to the standards defined in this unit's elements, performance criteria and foundation skills:

- develop and document the technical specifications and procedures of an automotive repair or manufacturing process that would take more than thirty minutes to complete, including:
  - safety requirements of the process
  - steps involved in undertaking the process, including:
    - use of any tools, equipment and materials
    - explanatory graphics
  - specifications explaining the requirements that a product or assembly must meet or exceed
  - bibliography of sources of information.

Knowledge Evidence

Individuals must be able to demonstrate knowledge of:

- types and application of technical documents, including:
  - technical background reports
  - technical guides
  - technical specifications, including:
    - open specifications
    - closed specifications
    - methods of describing limits, including tolerances, clearances and wear
  - technical and standard operating procedures, including:
    - safe operating procedures

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        - dismantle and assembly procedures
    - literature reviews
- technical document writing techniques, including:
    - confirming document scope
    - understanding the audience
    - developing a plan
    - collecting information, including:
        - using primary and secondary sources
        - acknowledging sources
    - methods of organising information to meet document requirements, including:
        - linear or chronological
        - parts of an object graphics
        - simple to complex
        - specific to general
        - general to specific
    - writing first drafts, including:
        - using style guides
        - using graphics
    - revising and editing drafts
- workplace policies relating to publishing documents with company intellectual property content.

Assessment Conditions

Assessors must satisfy NVR/AQTF assessor requirements.

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

Assessment must include direct observation of tasks.

Where assessment of competency includes third-party evidence, individuals must provide evidence that links them to the specifications and procedures that they have developed, e.g. procedural documents relevant to their workplace.

Assessors must verify performance evidence through questioning on skills and knowledge to ensure correct interpretation and application.

The following resources must be made available:

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- automotive repair workplace or simulated workplace
- situations requiring research and documentation of technical specifications and procedures
- range of reference materials relevant to technical research activities and vehicle specifications and procedures.

Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=b4278d82-d487-4070-a8c4-78045ec695b1

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=b4278d82-d487-4070-a8c4-78045ec695b1

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AURAKA002 Adapt work processes to new technologies in an automotive workplace

Modification History

Release	Comment
Release 1	New unit of competency.

Application

This unit describes the performance outcomes required to investigate the nature of new technologies, and modify existing work processes and procedures to incorporate the new technologies.

It applies to those working in the automotive industry. It involves adapting work processes and new technologies in an automotive service or repair workplace or an automotive office administration environment.

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

Competency Field

Common

Unit Sector

Information Technology

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 and italicised text is used, further information is detailed in the range of conditions section.

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Elements Elements describe the essential outcomes.	**Performance Criteria** Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold and italicised text is used, further information is detailed in the range of conditions section.
1. Investigate the new technology	1.1 Information is obtained on new technology through a range of ***sources*** and in line with workplace expectations and procedures 1.2 New technologies of value to the workplace are identified and evaluated to determine their application and suitability 1.3 Impact of new technologies on existing work processes is identified and analysed 1.4 Information about additional materials and equipment required to adopt the technology is sourced and evaluated
2. Modify existing work processes and procedures	2.1 Action plan is prepared to implement new technology into work processes 2.2 Processes are modified to incorporate new technologies 2.3 Impact on workflow and productivity is analysed and minimised through planning process and communication with staff 2.4 Information on the use of new technologies is communicated to staff, as required

Foundation Skills

This section describes those language, literacy, numeracy and employment skills that are essential to performance and are not explicit in the performance criteria.

Skills	**Description**
Learning skills to:	• identify sources of information, assistance and expert knowledge to expand knowledge, skills and understanding relating to new technologies.
Reading skills to:	• research and critically analyse text and numerical information about new technologies from a range of sources.
Writing skills to:	• legibly and accurately record information about new technologies and convey to others using clear and concise language.
Oral communication skills to:	• clearly present information to others about new technologies and changes to work processes using concise language and tone appropriate for audience.
Numeracy skills to:	• use mathematical ideas and techniques to interpret numerical information relating to new technologies and impact on work processes.

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Skills	Description
Initiative and enterprise skills to:	• proactively adopt new technologies and adapt and improve work processes.
Planning and organising skills to:	• plan and prioritise implementation of new technologies in work processes.
Technology skills to:	• use computers.

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.

Sources must include:	• desk-based research • consultation with technical sources • training and information sessions.

Unit Mapping Information

Equivalent to AURAKA3002 Adapt work processes to new technologies

Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=b4278d82-d487-4070-a8c4-78045ec695b1

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Assessment Requirements for AURAKA002 Adapt work processes to new technologies in an automotive workplace

Modification History

Release	Comment
Release 1	New unit of competency.

Performance Evidence

Before competency can be determined, individuals must demonstrate they can perform the following according to the standards defined in this unit's elements, performance criteria, range of conditions and foundation skills:

- conduct research and collate information on one new piece of technology to be adopted in the automotive workplace
- prepare an action plan outlining the modification of existing work processes and staff training required to incorporate above new piece of technology into the workplace.

Knowledge Evidence

Individuals must be able to demonstrate knowledge of:

- existing workplace activity, processes and procedures relevant to implementation of specific new technology
- sources of information on new technology, including:
  - internet
  - manufacturer or component supplier specifications
  - technical journals and manuals
  - workshops, information sessions, and trade shows
- procedures for cost-benefit analysis of opportunities and risks, considering:
  - cost savings
  - customer satisfaction
  - marketing opportunities
  - new business opportunities
  - payback period
  - profit margins
  - short and long-term benefits

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- key features of action or implementation plan covering:
  - timelines
  - costs
  - business case or purpose
  - team or section requirements
- procedures for documenting action or implementation plans:
  - checklists
  - written documents
  - visual management board and items.

Assessment Conditions

Assessors must satisfy NVR/AQTF assessor requirements.

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

Assessment must include direct observation of tasks.

Where assessment of competency includes third-party evidence, individuals must provide evidence that links them to having adapted work processes to new technologies in an automotive workplace, e.g. action plans.

Assessors must verify performance evidence through questioning on skills and knowledge to ensure correct interpretation and application.

The following resources must be made available:

- automotive service and repair workplace or simulated workplace
- sources of information about new technologies
- tools and materials to research information
- computer hardware and software and general office equipment.

Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=b4278d82-d487-4070-a8c4-78045ec695b1

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=b4278d82-d487-4070-a8c4-78045ec695b1

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AURALA001 Comply with legal aspects of a service and repair contract in an automotive workplace

Modification History

Release	Comment
Release 1	New unit of competency.

Application

This unit describes the performance outcomes required to act within legal and ethical boundaries of a service and repair contract when dealing with customers, implement measures to avoid disputes, and resolve disputes that do occur.

It applies to those working in the automotive service and repair industry.

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

Competency Field

Common

Unit Sector

Regulatory or Legal

Elements and Performance Criteria

Elements Elements describe the essential outcomes.	Performance Criteria Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold and italicised text is used, further information is detailed in the range of conditions section.
1. Interpret service and repair contract	1.1 Legal obligations of all parties involved in a valid service and repair contract are identified

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Elements Elements describe the essential outcomes.	**Performance Criteria** Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold and italicised text is used, further information is detailed in the range of conditions section.
	1.2 Legal liabilities of repairer performing work without a valid service and repair contract are identified 1.3 Regulatory bodies with authority to inspect the workplace if the customer takes legal action are identified 1.4 Workplace service and repair contract is analysed to determine relevant legal compliance requirements
2. Comply with service and repair contract requirements	2.1 Procedures are implemented to advise customers of the terms of contract into which they are entering 2.2 Procedures are implemented to ensure staff only use valid service and repair contracts 2.3 Procedures are implemented to minimise liability or customer claims in relation to bailment
3. Establish service and repair warranty requirements	3.1 ***Warranties document*** is developed detailing requirements 3.2 Procedures are implemented to ensure staff are aware of warranty requirements 3.3 Warranty requirements are documented and stored according to workplace procedures
4. Enforce service and repair contract requirements	4.1 Workplace policy on payment terms for services provided are implemented according to workplace procedures 4.2 Workplace legal rights and obligations when selling or disposing of uncollected vehicles or goods are identified and observed as required 4.3 Legal procedures to recover payment when a customer defaults are identified and implemented as required
5. Conduct dispute resolution processes	5.1 Procedures to minimise disputes with customers are implemented 5.2 Workplace records are maintained to support outcomes in any customer disputes 5.3 External sources of assistance in dispute resolution are identified 5.4 Outcomes of customer disputes and resolutions are analysed to develop procedures to avoid future disputes

Foundation Skills

This section describes those language, literacy, numeracy and employment skills that are essential to performance and are not explicit in the performance criteria.

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Skills	Description
Learning skills to:	• identify sources of information, assistance and expert knowledge to expand knowledge, skills and understanding relating to legal and ethical business dealings.

Reading skills to:	• interpret:
	  • textual and numerical information in product or service documentation relating to contractual agreements
	  • original equipment manufacturer (OEM) or authorised agency's service and repair agreements
	  • vehicle specifications and job requirements.

Writing skills to:	• legibly and accurately complete:
	  • dispute resolution forms and legal action plans outlining customer's statutory rights and settlement options
	  • vehicle warranty documents and reports.

Oral communication skills to:	• communicate ideas and information to customers and supervisors relating to legal and ethical business dealings • participate in verbal exchanges using active listening and questioning techniques to gather, clarify and confirm customer information and feedback.
Numeracy skills to:	• use mathematical ideas and techniques to count and measure.

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.

Warranties document must:	• meet legal requirements • comply with workplace policies • not compromise customer consumer guarantees • be written in plain language.

Unit Mapping Information

Equivalent to AURALA3001 Determine legal aspects of an automotive service and repair contract

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Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=b4278d82-d487-4070-a8c4-78045ec695b1

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Assessment Requirements for AURALA001 Comply with legal aspects of a service and repair contract in an automotive workplace

Modification History

Release	Comment
Release 1	New unit of competency.

Performance Evidence

Before competency can be determined, individuals must demonstrate they can perform the following according to the standard defined in the unit's elements and performance criteria, range of conditions and foundation skills:

- comply with the legal aspects of service and repair contracts with three different customers, in which the work must involve:
  - an abandoned vehicle
  - a vehicle kept as bailment
  - customer dissatisfaction due to failed installed parts.

Knowledge Evidence

Individuals must be able to demonstrate knowledge of:

- types and purpose of contracts, including:
  - key phases of contract, including:
    - offer
    - acceptance
    - consideration
  - oral and written contracts
- key components of Australian Consumer Law (ACL) relating to legal and ethical requirements of contracts and service agreements, including:
  - damages arising from breach of contracts
  - reasonable costs
  - proof of transaction
  - delays in delivery and non-supply

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  - charge back
  - contracts with minors
  - unfair contract terms
  - loss or damage to consumer property
  - misleading or deceptive conduct
  - warranties
  - dispute resolution
- key features of automotive service and repair contracts, including:
  - terms of the relationship, including:
    - acknowledgements and agreements from customer
    - definitions
  - rights, responsibilities and obligations of the service provider and principal, including:
    - level of performance and services being provided
    - authority in respect of the vehicle, including entering and test driving the vehicle
    - guarantees and warranties
    - lien to secure payment
    - abandonment of vehicle
    - liability
    - privacy
    - jurisdiction of the contract
  - business processes, including:
    - pricing
    - payment and invoicing
    - returns policies.

Assessment Conditions

Assessors must satisfy NVR/AQTF assessor requirements.

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

Assessment must include direct observation of tasks.

Where assessment of competency includes third-party evidence, individuals must provide evidence that links them to having complied with the legal aspects of a service and repair contract in an automotive workplace, e.g. correspondence between customer and business.

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Assessors must verify performance evidence through questioning on skills and knowledge to ensure correct interpretation and application.

The following resources must be made available:

- automotive repair workplace or simulated workplace n
- commercially realistic range of automotive service and repair contracts
- three different customers with the service and repair contract issues specified in the performance evidence.

Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=b4278d82-d487-4070-a8c4-78045ec695b1

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=b4278d82-d487-4070-a8c4-78045ec695b1

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AURAMA004 Maintain business image in an automotive workplace

Modification History

Release	Comment
Release 1	New unit of competency.

Application

This unit describes the performance outcomes required to monitor staff attire and grooming standards, maintain the physical appearance of the workplace, implement waste disposal processes, and promote business products and services.

It applies to those working in the automotive sales and service industry.

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

Competency Field

Common

Unit Sector

Management, Leadership and Supervision

Elements and Performance Criteria

Elements Elements describe the essential outcomes.	Performance Criteria Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold and italicised text is used, further information is detailed in the range of conditions section.
1. Maintain physical appearance of the	1.1 Cleanliness and tidiness of the workplace are maintained according to workplace procedures, local government

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Elements Elements describe the essential outcomes.	**Performance Criteria** Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold and italicised text is used, further information is detailed in the range of conditions section.
workplace	requirements, and ***safety requirements*** 1.2 Workplace is kept free of rubbish and waste according to workplace procedures, local government requirements, and safety requirements 1.3 Defined areas for specific tasks are maintained according to workplace procedures 1.4 Maintenance plan is monitored to ensure facilities and equipment are regularly maintained 1.5 Workplace signage is clearly and appropriately displayed throughout the organisation
2. Monitor workplace attire and grooming standards	2.1 Expectations regarding attire and grooming are communicated to staff on a regular basis 2.2 Standards are updated as needs arise according to workplace requirements 2.3 Dress and grooming of staff are monitored to ensure standards are met 2.4 Breaches of standards are identified and staff informed
3. Monitor waste disposal processes	3.1 Waste disposal is monitored to ensure compliance with workplace procedures and local government requirements 3.2 Recycling opportunities are identified and implemented according to workplace procedures and local government requirements 3.3 Workplace environmental documents are maintained
4. Promote workplace products and services	4.1 Promotional activities are monitored to ensure planned implementation according to workplace procedures 4.2 Promotional activities are actively supported according to own role and workplace procedures

Foundation Skills

This section describes those language, literacy, numeracy and employment skills that are essential to performance and are not explicit in the performance criteria.

Skills	**Description**

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Skills	Description
Reading skills to:	• interpret relevant safety information, local government requirements, and workplace procedures.
Numeracy skills to:	• use mathematical operations, including addition, subtraction, multiplication and division, to calculate quantities relating to housekeeping activities.
Planning and organising skills to:	• plan own work requirements and prioritise actions to achieve required outcomes and ensure tasks are completed within workplace timeframes.
Teamwork skills to:	• work with staff and supervisors when monitoring and following procedures that impact on business image.
Technology skills to:	• operate housekeeping and general office equipment.

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.

Safety requirements must include:	• work health and safety (WHS) and occupational health and safety (OHS) requirements, including procedures for: • manually handling goods • using cleaning chemicals and dangerous goods • selecting and using personal protective equipment (PPE).

Unit Mapping Information

Equivalent to AURAMA3004 Maintain business image

Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=b4278d82-d487-4070-a8c4-78045ec695b1

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Assessment Requirements for AURAMA004 Maintain business image in an automotive workplace

Modification History

Release	Comment
Release 1	New unit of competency.

Performance Evidence

Before competency can be determined, individuals must demonstrate they can perform the following according to the standards defined in this unit's elements, performance criteria, range of conditions and foundation skills:

- maintain the business image of an automotive workplace over one week, including:
  - ensuring a clean and tidy appearance of the workplace
  - ensuring correct staff attire and grooming
  - ensuring waste is correctly disposed of
  - engaging in one promotional activity to the limits of own role.

Knowledge Evidence

Individuals must be able to demonstrate knowledge of:

- work health and safety (WHS) and occupational health and safety (OHS) requirements relating to maintaining business image in an automotive workplace, including procedures for:
  - manually handling goods
  - using cleaning chemicals and dangerous goods
  - selecting and using personal protective equipment (PPE)
- procedures for maintaining the physical appearance of an automotive workplace, including procedures for:
  - cleaning buildings, grounds and equipment
  - waste disposal and recycling processes, including designated locations for waste storage and collection
  - maintaining defined areas for specific tasks, including:
    - reception area
    - staff and public amenities

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    - service and repair work areas
  - monitoring maintenance plans
  - monitoring workplace signage, including:
    - checking currency
    - placement
    - condition
- procedures for monitoring workplace attire and grooming standards, including procedures for:
  - communicating requirements to staff
  - evaluating staff attire and grooming against workplace standards
- procedures for monitoring waste disposal processes, including:
  - workplace and local government requirements
  - recycling procedures for:
    - office waste
    - service and repair work area waste
  - waste collection schedules
- procedures for promoting workplace products and services, including:
  - basic principles of display and design, including layout and presentation
  - types of display areas, including:
    - signage and fixtures on floor
    - interior or exterior areas
    - permanent or temporary displays
    - publicly accessible areas
    - shelves and windows in areas
  - displaying products, including their rotation, maintenance, storage requirements, pricing and labelling
  - arranging advertising and promotional information.

Assessment Conditions

Assessors must satisfy NVR/AQTF assessor requirements.

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

Assessment must include direct observation of tasks.

Where assessment of competency includes third-party evidence, individuals must provide evidence that links them to having maintained the business image of an automotive workplace, e.g. maintenance plans.

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Assessors must verify performance evidence through questioning on skills and knowledge to ensure correct interpretation and application.

The following resources must be made available:

- automotive workplace or simulated workplace
- workplace procedures relating to:
  - maintaining equipment and facilities
  - personal presentation, attire and grooming
  - waste disposal and recycling processes
- commercially realistic number of diverse staff working in an automotive workplace.

Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=b4278d82-d487-4070-a8c4-78045ec695b1

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=b4278d82-d487-4070-a8c4-78045ec695b1

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AURAMA005 Manage complex customer issues in an automotive workplace

Modification History

Release	Comment
Release 1	New unit of competency.

Application

This unit describes the performance outcomes required to resolve complex customer issues and complaints. Complex customer issues include those caused by cost variations, warranty issues, policy matters, additional repair time and disputed work standards. The unit involves examining the exact nature of a customer issue, communicating effectively, making informed judgements, negotiating an outcome or referring the issue to an appropriate person, and documenting outcomes for continuous improvement.

It applies to those working in the automotive sales and service industry.

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

Competency Field

Common

Unit Sector

Management, Leadership and Supervision

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Elements and Performance Criteria

Elements Elements describe the essential outcomes.	**Performance Criteria** Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold and italicised text is used, further information is detailed in the range of conditions section.
1. Examine the nature of the issue	1.1 Customer issue and associated feelings and opinions are identified 1.2 Facts relating to the issue are determined using ***appropriate communication skills*** 1.3 Workplace procedures and manufacturer or supplier policy relating to the issue are sourced and interpreted 1.4 Further information is researched as required to confirm or clarify issue 1.5 Rights and responsibilities of customer and workplace are determined and communicated to customer
2. Resolve or escalate the issue	2.1 Implications of the issue for customer and workplace are analysed and determined, and suitable resolution options are identified 2.2 Options for resolving the issue are explained and negotiated with customer according to workplace policies and procedures 2.3 Information required to assist customer in evaluating service and product options that best meet customer needs is provided 2.4 Complaints requiring attention from an external party are actioned by referring to appropriate person according to workplace procedures 2.5 Where a resolution cannot be negotiated and agreed, issue is escalated to appropriate person
3. Document issue and outcome	3.1 Record issue, outcome and customer feedback according to workplace procedures 3.2 Report agreed outcome to appropriate person according to workplace procedures

Foundation Skills

This section describes those language, literacy, numeracy and employment skills that are essential to performance and are not explicit in the performance criteria.

Skills	**Description**

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Skills	Description
Learning skills to:	• use feedback and experience obtained from negotiating with customers to inform future customer dealings and workplace procedures.
Reading skills to:	• research and review information about supplier products and services relevant to customer issues.
Writing skills to:	• legibly and accurately complete workplace reports outlining customer issues and associated outcomes.
Oral communication skills to:	• participate effectively in verbal exchanges using collaborative techniques, including active listening and questioning, to gather, clarify and confirm customer issues or complaints • summarise and present key points of information to negotiate effectively to resolve the issue.
Numeracy skills to:	• use mathematical operations, including addition, subtraction, multiplication division and percentages, to determine additional costs, refunds and time implications relating to the issue.

Digital literacy skills to:	• use digital systems and tools to:
	  • communicate with others
	  • access, search and retrieve information relating to products and services.

Initiative skills to:	• present options and alternatives to negotiate solutions to customer issues.
Planning and organising skills to:	• select problem resolution methods and techniques appropriate to the circumstances • use a planned approach to resolving and negotiating a customer's issue or complaint.
Technology skills to:	• use office equipment to prepare written information and to communicate with customers via a range of channels.

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.

Appropriate communication skills must include:	• active listening • questioning techniques • interpreting body language.

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Unit Mapping Information

Equivalent to AURAMA4005 Manage complex customer issues

Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=b4278d82-d487-4070-a8c4-78045ec695b1

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Assessment Requirements for AURAMA005 Manage complex customer issues in an automotive workplace

Modification History

Release	Comment
Release 1	New unit of competency.

Performance Evidence

Before competency can be determined, individuals must demonstrate that they can perform the following according to the standards defined in this unit's elements, performance criteria, range of conditions and foundation skills:

- manage the complex issues of three different customers in an automotive service and repair environment, including issues involving two of the following:
  - cost variations
  - warranty issues
  - policy matters
  - additional repair time
  - disputed work standards
- one of the above must involve escalating the issue to appropriate person.

Knowledge Evidence

Individuals must be able to demonstrate knowledge of:

- workplace procedures relating to:
  - customer service
  - dealing with dissatisfied customers
  - complaints handling and recommending appropriate action
  - escalating issues to appropriate person
  - reporting and documenting complaints
- common complex customer issues, including disputes concerning:
  - cost
  - work standards
  - time taken or expected for repairs

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  - selection of parts
  - warranties
- key legal requirements relating to customer rights as a consumer, and business obligations under Australian Consumer Law (ACL)
- negotiation, communication and problem-solving strategies, including:
  - active listening
  - questioning techniques
  - interpreting body language
  - negotiating or closing a deal
- automotive product and service knowledge relevant to workplace manufacturers or suppliers in order to recommend:
  - alternative products and services
  - variations in a limited product and service range.

Assessment Conditions

Assessors must satisfy NVR/AQTF assessor requirements.

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

Assessment must include direct observation of tasks.

Where assessment of competency includes third-party evidence, individuals must provide evidence that links them to having managed complex customer issues in an automotive workplace, e.g. complaint resolution report.

Assessors must verify performance evidence through questioning on skills and knowledge to ensure correct interpretation and application.

The following resources must be made available:

- automotive repair workplace or simulated workplace
- workplace procedures relating to customer service and workplace legal obligations
- three different customers with the complex issues specified in the performance evidence
- workplace and manufacturer or supplier product or service information.

Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=b4278d82-d487-4070-a8c4-78045ec695b1

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AURAMA006 Contribute to planning and implementing business improvement in an automotive workplace

Modification History

Release	Comment
Release 1	New unit of competency.

Application

This unit describes the performance outcomes required to contribute to the business improvement of an automotive workplace. It involves contributing to the budget process, managing expenses in order to maintain levels of profitability in the specific area of responsibility, and reviewing and contributing to the planning of business promotions and improvements.

It applies to those working in the automotive sales and service industry.

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

Competency Field

Common

Unit Sector

Management, Leadership and Supervision

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 and italicised text is used, further information is detailed in the range of conditions section.

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Elements Elements describe the essential outcomes.	**Performance Criteria** Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold and italicised text is used, further information is detailed in the range of conditions section.
1. Review business plan and business performance	1.1 Goals and key performance indicators (KPIs) specified in workplace business plan are analysed and relevance to operational area is assessed 1.2 Gaps and risks to achieving business goals and KPIs are identified 1.3 Risk management strategies to meet business goals and KPIs are identified and developed 1.4 Contingency plan to address possible areas of non-conformance with the plan is developed
2. Assist in developing, implementing and monitoring marketing and promotional strategies	2.1 Key business products or services are analysed to determine a suitable focus for marketing and promotional activities, according to the objectives of the business plan 2.2 Costs and benefits of using different distribution channels and providing different levels of customer service are analysed to determine the appropriate marketing mix 2.3 Agreed marketing and promotional strategies are agreed and implemented 2.4 Marketing activities are monitored and business performance is evaluated according to the objectives and targets of the business plan
3. Seek continuous improvement opportunities	3.1 Business development strategies are regularly reviewed with supervisor 3.2 Operational plans are reviewed to determine possible improvements to business 3.3 New ideas or activities are presented as a business case and discussed with line manager 3.4 Approval is sought from line manager before implementing new ideas and activities

Foundation Skills

This section describes those language, literacy, numeracy and employment skills that are essential to performance and are not explicit in the performance criteria.

Skills	**Description**

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Skills	Description
Learning skills to:	• locate appropriate sources of information efficiently • evaluate appropriateness of information for its purpose.
Reading skills to:	• interpret literature containing different forms, including text, diagrams, charts and graphs, and pictures • evaluate text in business plan and associated literature to determine its ability to impart intended meaning to others.
Writing skills to:	• integrate information and ideas from a range of technical information, using appropriate support material and embedded information in a range of sources • logically convey and present textual and numerical information in a structured format appropriate to the audience.
Oral communication skills to:	• participate effectively in verbal exchanges using questioning and active listening to convey and clarify information about business KPIs and financial targets • summarise and clearly present key points of information in discussions with others about business improvements.
Numeracy skills to:	• use mathematical operations to calculate percentages and ratios and interpret trends in financial data • interpret numerical information embedded in cost-benefit analyses.
Digital literacy skills to:	• use digital systems and tools to access, filter, extract and organise numerical information.
Planning and organising skills to:	• sort and sequence relevant financial data and information to support a position and to present to others.
Problem solving skills to:	• identify and rectify issues within own control to meet KPIs.
Teamwork skills to:	• liaise collaboratively with management and staff to contribute to discussions and planning processes.
Technology skills to:	• select and use business technology to prepare and communicate business information.

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.

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There is no Range of Conditions for this unit.

Unit Mapping Information

Equivalent to AURAMA5006 Contribute to business improvement

Links

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Assessment Requirements for AURAMA006 Contribute to planning and implementing business improvement in an automotive workplace

Modification History

Release	Comment
Release 1	New unit of competency.

Performance Evidence

Before competency can be determined, individuals must demonstrate they can perform the following according to the standards defined in this unit's elements, performance criteria and foundation skills:

- review the performance of an automotive workplace against its business plan over twelve months
- analyse the effectiveness of the business marketing strategies against sales over twelve months
- develop a strategy to improve business performance based on the above review and analysis.

Knowledge Evidence

Individuals must be able to demonstrate knowledge of:

- key features of a business plan, including:
  - purpose of business plan
  - types of business planning, including:
    - feasibility studies
    - strategic, operational, financial and marketing planning
  - setting short, medium and long-term goals and objectives
  - role of key performance indicators (KPIs) and targets
- key components of financial statements, including:
  - cash flow
  - trends
  - areas of risk
- principles and factors to consider in setting budgets, including:

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  - setting targets and stretch targets
  - business profit margins
  - expenditure, including fixed and variable costs
  - calculating service and hourly rates
  - contingency and unplanned events
  - stock holding costs
  - rework components and costs
  - subcontracting costs
- business development principles, and strategies for improving business performance, including:
  - stages in business development
  - basic marketing concepts and principles
  - promotional activities
  - ways to reduce costs and address budget deficits
- report formats for preparing a business case, including financial analysis.

Assessment Conditions

Assessors must satisfy NVR/AQTF assessor requirements.

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

Assessment must include direct observation of tasks.

Where assessment of competency includes third-party evidence, individuals must provide evidence that links them to having contributed to business planning processes and improvement activities in an automotive workplace, e.g. business plans.

Assessors must verify performance evidence through questioning on skills and knowledge to ensure correct interpretation and application.

The following resources must be made available:

- automotive workplace or simulated workplace
- financial information for an automotive workplace budget over a period of 12 months
- workplace business plan
- computer, office equipment and technology to prepare financial and written reports.

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Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=b4278d82-d487-4070-a8c4-78045ec695b1

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AURANN011 Estimate and quote automotive body repairs

Modification History

Release	Comment
Release 1	New unit of competency

Application

This unit describes the performance outcomes required to prepare vehicle or equipment repair quotations for customer and insurance purposes, including associated materials and labour costs. It involves preparing for the task, estimating repair costs, producing written quotations, and completing workplace documentation.

It applies to those working in the automotive body repair industry. The quotes are for light vehicles, heavy vehicles, agricultural and plant equipment, recreational vehicles or motorcycles. It does not apply to estimating and quoting on vehicle mechanical and electrical repairs.

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

Unit Sector

Loss Assessment or Repair Quoting - Body

Elements and Performance Criteria

Elements Elements describe the essential outcomes.	**Performance Criteria** Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold and italicised text is used, further information is detailed in the range of conditions section.
1. Prepare to quote	1.1 Repair requirements are clarified 1.2 Workplace quotation information and recommended labour time guides are sourced and interpreted 1.3 Job cost estimation and calculation details are sourced and interpreted

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Elements Elements describe the essential outcomes.	**Performance Criteria** Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold and italicised text is used, further information is detailed in the range of conditions section.
2. Estimate and cost repairs	2.1 Required replacement parts and materials are estimated and costed according to workplace procedures 2.2 Direct labour and subcontractor services are estimated and costed according to workplace procedures 2.3 Overheads and mark-up percentages are estimated and costed according to workplace procedures 2.4 Potential quotation variations relating to unsighted damage are noted on the quotation 2.5 Quotation is prepared according to workplace procedures and relevant legislation 2.6 Proposed repair timeframe is assessed and takes into consideration the workplace repair schedule 2.7 Final costs, calculations and other details are verified with workplace supervisor
3. Present quotation to customer	3.1 Quotation is presented to customer or insurer for approval 3.2 Approval is obtained from customer or insurer to commence repairs 3.3 Documentation is completed and quotation filed according to workplace procedures

Foundation Skills

This section describes those language, literacy, numeracy and employment skills that are essential to performance and are not explicit in the performance criteria.

Skills	**Description**
Reading skills to:	• interpret vehicle specifications and job requirements • interpret original equipment manufacturer (OEM) repair procedures and recognised body repair industry time guides.

Writing skills to:	• legibly and accurately complete:
	  • vehicle damage inspection reports
	  • repair quotations.

Oral communication skills	• participate in verbal exchanges using active listening and questioning techniques to gather, clarify and confirm customer

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Skills	Description
to:	information and feedback.
Numeracy skills to:	• use mathematical operations, including addition, subtraction, multiplication, division and percentages, to perform calculations and check accuracy of costs of options and solutions.
Technology skills to:	• use workplace technology when preparing a vehicle body repair quotation.

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.

There is no Range of Conditions for this unit.

Unit Mapping Information

Code and title current version	Code and title previous version	Comments	Equivalence status
AURANN011 Estimate and quote automotive body repairs	AURANN001 Estimate and quote automotive body repairs	Include additional knowledge evidence requirements, foundation skills and performance criteria	Equivalent

Links

Companion Volume Implementation Guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=b4278d82-d487-4070-a8c4-78045ec695b1

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Assessment Requirements for AURANN011 Estimate and quote automotive body repairs

Modification History

Release	Comment
Release 1	New unit of competency

Performance Evidence

Before competency can be determined, individuals must demonstrate they can perform the following according to the standard defined in the unit's elements and performance criteria and foundation skills:

- inspect three different vehicles or equipment with body damage, and for each vehicle or equipment:
  - estimate the cost of replacement parts and labour
  - prepare a written repair quotation for insurance claim purposes and present to customer

Knowledge Evidence

Individuals must be able to demonstrate knowledge of:

- workplace procedures and work health and safety (WHS) and occupational health and safety (OHS) requirements relating to estimating and quoting automotive body repairs, including procedures for:
  - selecting and using personal protective equipment (PPE)
  - using hand tools and equipment
- relevant legislation relating to trade practices and consumer rights, as well as industry codes of conduct
- location and content of specifications relating to the damaged vehicle or equipment being inspected
- body repair quality standards
- procedures for identifying and determining location and extent of vehicle damage, including understanding recalibration procedures and scanning tools
- procedures for estimating and job costing, including calculating:
  - labour costs, including calculating time to perform work, from:
    - inspecting vehicle damage
    - analysing original equipment manufacturer (OEM) or authorised agency repair procedures

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    - analysing workplace procedures
  - parts costs, including those of:
    - new parts
    - second-hand parts
    - repaired parts
  - costs relating to external products or services
- procedures for gaining evidence to support repair quotation, including:
  - part dismantling of damaged area for repair plan
  - estimating and documenting indirect or unforeseen damage
  - taking and storing photographs.
  -

Assessment Conditions

Assessors must satisfy NVR/AQTF assessor requirements.

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

Assessment must include direct observation of tasks.

Where assessment of competency includes third-party evidence, individuals must provide evidence that links them to having prepared an automotive body repair quotation, e.g. workplace-specific quotations.

Assessors must verify performance evidence through questioning on skills and knowledge to ensure correct interpretation and application.

The following resources must be made available:

- automotive body repair workplace or simulated workplace
- three different vehicles or equipment requiring body repairs
- customer or individual in the role of a customer
- manufacturer and component repair and replacement costing guides
- OEM repair procedures, repair time manuals and labour rates
- office equipment, including calculators, computer, internet and software
- workplace procedures relating to vehicle or machinery body repairs.
-

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Links

Companion Volume Implementation Guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=b4278d82-d487-4070-a8c4-78045ec695b1

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AURATA005 Estimate and quote automotive mechanical and electrical repairs

Modification History

Release	Comment
Release 1	New unit of competency.

Application

This unit describes the performance outcomes required to prepare an estimate and quotation to repair the mechanical or electrical systems of vehicles or machinery. It involves preparing an initial estimate of costs, then preparing a detailed quotation for the required work, and presenting the quotation to customer.

It applies to those working in the automotive service and repair industry. It includes quotations for light vehicles, heavy vehicles, agricultural and plant equipment, recreational vehicles or motorcycles. The unit does not apply to estimating and quoting vehicle body repair costs.

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

Competency Field

Common

Unit Sector

Technical

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Elements and Performance Criteria

Elements Elements describe the essential outcomes.	**Performance Criteria** Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold and italicised text is used, further information is detailed in the range of conditions section.
1. Estimate repair or service costs	1.1 Clarify service and repair requirements 1.2 Time requirements for job are estimated from a comparison of previous similar repairs 1.3 Costs associated with replacement parts are estimated 1.4 Parts and work needing to be subcontracted are identified and costs estimated 1.5 Estimate is calculated, feasibility of job is discussed with customer, and agreement is reached to proceed with quote
2. Prepare quotation	2.1 Job labour cost is documented and agreed with workplace supervisor 2.2 Parts and consumables are costed according to workplace pricing procedures 2.3 Quotation variations relating to unsighted damage are noted and prepared for customer acceptance 2.4 Quotation is reviewed by workplace supervisor and finalised
3. Present quotation to customer	3.1 Detailed quotation is provided to customer for approval 3.2 Approval from customer to commence work and undertake any supplementary quotation work is obtained as required 3.3 Workplace documentation is processed according to workplace procedures

Foundation Skills

This section describes those language, literacy, numeracy and employment skills that are essential to performance and are not explicit in the performance criteria.

Skills	**Description**
Reading skills to:	• interpret vehicle specifications and job requirements • interpret original equipment manufacturer (OEM) and recommended labour time guides.
Oral communication skills to:	• participate in verbal exchanges using active listening and questioning techniques to gather, clarify and confirm customer information and feedback.

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Skills	Description
Numeracy skills to:	• use mathematical operations, including addition, subtraction, multiplication and division, to perform calculations and check accuracy of costs of options and solutions.
Digital literacy skills to:	• use digital systems and tools to access, search and retrieve information relating to products and services.
Technology skills to:	• use workplace technology related to preparing a vehicle mechanical and electrical service repair quotation.

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.

There is no Range of Conditions for this unit.

Unit Mapping Information

Equivalent to AURATA3005 Estimate complex jobs

Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=b4278d82-d487-4070-a8c4-78045ec695b1

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Assessment Requirements for AURATA005 Estimate and quote automotive mechanical and electrical repairs

Modification History

Release	Comment
Release 1	New unit of competency.

Performance Evidence

Before competency can be determined, individuals must demonstrate they can perform the following according to the standard defined in the unit's elements and performance criteria and foundation skills:

- inspect four different vehicles or equipment, two with mechanical and two with electrical faults, and:
  - estimate required repair or replacement of parts and labour
  - prepare a written repair quotation for the above vehicles or equipment for customer approval.

Knowledge Evidence

Individuals must be able to demonstrate knowledge of:

- workplace procedures and work health and safety (WHS) and occupational health and safety (OHS) requirements relating to estimating and quoting on repairs, including procedures for:
  - selecting and using personal protection equipment (PPE)
  - manual handling vehicle components and systems
  - using hand tools and equipment
- components of estimates and job costings, including:
  - labour
  - parts
  - costs relating to external products or services required
- original equipment manufacturer (OEM) or authorised agency's service and repair procedures
- process to identify and determine location and extent of failure or faults in vehicle
- evidence to support repair quotation, including:

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  - part dismantle of damaged area for repair plan
  - indirect or unforeseen damage
  - photographs
- vehicle inspection, failure or fault assessment procedures
- service and repair industry standards.

Assessment Conditions

Assessors must satisfy NVR/AQTF assessor requirements.

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

Assessment must include direct observation of tasks.

Where assessment of competency includes third-party evidence, individuals must provide evidence that links them to preparing a repair quotation relating to an automotive mechanical and electrical service and repair quotation, e.g. a written quote.

Assessors must verify performance evidence through questioning on skills and knowledge to ensure correct interpretation and application.

The following resources must be made available:

- four different vehicles requiring mechanical and electrical repairs or service
- automotive mechanical or electrical repair workplace or simulated workplace
- manufacturer and component repair and replacement costing guides
- OEM service and repair time manuals and labour rates
- office equipment, including calculators, computer, internet and software
- workplace procedures relating to vehicle mechanical and electrical repairs or service.

Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=b4278d82-d487-4070-a8c4-78045ec695b1

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AURETB001 Diagnose and repair electric braking systems

Modification History

Release	Comment
Release 1	New unit of competency.

Application

This unit describes the performance outcomes required to diagnose and repair faults in the electric braking systems of vehicle or machinery. These systems are single wire (non CAN-bus) circuits and include electric braking systems in light vehicles and machinery fitted with electric trailer braking controllers or trailers fitted with electric brakes. The unit involves preparing for the task, selecting the correct diagnostic procedure, carrying out the diagnosis and the repair, performing post-repair testing, and completing workplace processes and documentation.

It applies to those working in an automotive service and repair industry. Electric braking systems include those in agricultural machinery, heavy commercial vehicles, light vehicles or mobile plant machinery.

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

Competency Field

Electrical

Unit Sector

Technical – Brakes

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Elements and Performance Criteria

Elements Elements describe the essential outcomes**.**	**Performance Criteria** Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold and italicised text is used, further information is detailed in the range of conditions section**.**
1. Prepare to diagnose and repair electric braking system	1.1 Job requirements are determined from workplace instructions 1.2 Diagnostic information is sourced and interpreted 1.3 Diagnostic options are analysed and those most appropriate to the circumstances are selected 1.4 Hazards associated with the work are identified and risks are managed 1.5 Diagnostic tools and equipment are selected and checked for serviceability
2. Diagnose electric braking system	2.1 Diagnostic tests are carried out according to workplace procedures and ***safety requirements*** 2.2 Faults are identified from diagnostic test results and causes of faults are determined 2.3 Diagnosis findings and recommendations for necessary repairs or adjustments are reported according to workplace procedures
3. Repair electric braking system	3.1 Repair information is sourced and interpreted 3.2 Repair options are analysed and those most appropriate to the circumstances are selected 3.3 Repair tools, equipment and materials are selected and checked 3.4 Repairs and component replacements and adjustments are carried out according to manufacturer specifications, workplace procedures, safety requirements, and without causing damage to components or systems 3.5 Post-repair testing is carried out according to workplace procedures to confirm fault rectification, and any further problems detected as having been introduced during the repair process are rectified
4. Complete work processes	4.1 Final inspection is made to ensure work is to workplace expectations and vehicle or machinery is presented ready for use 4.2 Work area is cleaned, waste and non-recyclable materials are disposed of, and recyclable material is collected 4.3 Tools and equipment are checked and stored and any faulty electrical equipment is identified, tagged and isolated according to workplace procedures 4.4 Workplace documentation is processed according to workplace procedures

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Foundation Skills

This section describes those language, literacy, numeracy and employment skills that are essential to performance and are not explicit in the performance criteria.

Skills	Description
Learning skills to:	• identify and locate various sources of information efficiently.
Reading skills to:	• interpret text, symbols and wiring diagrams in information relating to electrical system testing and repair equipment from manufacturer specifications and workplace instructions and procedures.
Writing skills to:	• legibly and accurately fill out workplace documentation when reporting diagnostic findings, making repair recommendations, and recording parts and material used.
Oral communication skills to:	• clarify instructions • report diagnostic findings and make repair recommendations.
Numeracy skills to:	• match electrical components and part identification numbers to workplace instructions, vehicle and component part lists, and manufacturer specifications • interpret vehicle electrical measurements and readings • measure voltage, current and resistance and use basic mathematical operations, including addition and subtraction, to calculate deviations from manufacturer specifications.
Planning and organising skills to:	• plan own work requirements and prioritise actions to achieve required outcomes and ensure tasks are completed within workplace timeframes.
Technology skills to:	• use specialised equipment, including multimeters and scan tools.

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.

Safety requirements must include:	• work health and safety (WHS) and occupational health and safety (OHS) requirements, including procedures for:
	  • using specialised tools and equipment
	  • using appropriate personal protective equipment (PPE)

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	• identifying hazards and controlling risks associated with working on vehicle high voltage ignition systems, including standard precautions such as not wearing jewellery while working around high current wiring systems.

Unit Mapping Information

Equivalent to AURETB3001 Repair electric braking systems

Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=b4278d82-d487-4070-a8c4-78045ec695b1

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Assessment Requirements for AURETB001 Diagnose and repair electric braking systems

Modification History

Release	Comment
Release 1	New unit of competency.

Performance Evidence

Before competency can be determined, individuals must demonstrate they can perform the following according to the standards defined in this unit's elements, performance criteria, range of conditions and foundation skills:

- diagnose and repair a fault in the electrical non CAN-bus networked braking system of two different vehicles or machinery.

Knowledge Evidence

Individuals must be able to demonstrate knowledge of:

- work health and safety (WHS) and occupational health and safety (OHS) requirements relating to diagnosing and repairing electric braking systems, including procedures for:
  - using specialised tools and equipment
  - using appropriate personal protective equipment (PPE)
  - identifying hazards and controlling risks associated with working on vehicle high voltage ignition systems, including standard precautions including not wearing jewellery while working around high current wiring systems
- electrical principles, including:
  - current, voltage, resistance and power
  - series circuits
  - parallel circuits
  - series and parallel circuits
  - Ohm's law
  - Faraday's law
  - Kirchhoff's law
  - electromagnetic interference and radiation
- application, purpose and operation of electric braking systems and components, including:

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    - control systems, including:
        - electric over hydraulic
        - electric over vacuum
    - circuit protection devices
    - switches, relays and globes, including light emitting diodes (LEDs)
    - cable types and sizes and current carrying capacity
    - sensors (two and three-wire)
    - actuators, including pulse width modulated (PWM)
- techniques for reading and interpreting technical information, including circuit types, diagrams and symbols
- diagnostic testing procedures for electric braking systems, including:
    - using diagnostic flow charts
    - testing electrical systems, including procedures for:
        - accessing electrical terminals and using test probes without damaging connectors, fuse holders or wiring
        - testing resistance and voltage drop
        - testing open and short circuits
        - checking shorts to signal, power circuits and grounds
    - visual, aural and functional assessments of electric braking system components, including:
        - component damage and wear
        - component or connector corrosion
        - component water or moisture ingress
- repair procedures for electric braking system circuits, including procedures for removing and replacing:
    - brake controllers
    - electric drum brakes
    - electric disc brakes
    - electric braking system wiring and connectors
- post-repair testing procedures, including static and dynamic performance tests of electric braking systems.

Assessment Conditions

Assessors must satisfy NVR/AQTF assessor requirements.

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

Assessment must include direct observation of tasks.

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Where assessment includes third-party evidence, individuals must provide evidence that links them to the electric braking systems that they have worked on, e.g. repair orders.

Assessors must verify performance evidence through questioning on skills and knowledge to ensure correct interpretation and application.

The following resources must be made available:

- automotive repair workplace or simulated workplace
- workplace instructions
- manufacturer electric braking system specifications
- two different vehicles or machinery with electric braking system faults
- diagnostic equipment for electric braking systems, including:
  - multimeter
  - scan tool
- tools, equipment and materials appropriate for repairing vehicle and machinery electric braking systems.

Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=b4278d82-d487-4070-a8c4-78045ec695b1

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AURETR012 Test and repair basic electrical circuits

Modification History

Release	Comment
Release 1	New unit of competency.

Application

This unit describes the performance outcomes required to inspect, test and repair basic electrical circuits in vehicle and machinery electrical systems. It involves preparing for the task, inspecting and testing the circuit, repairing the circuit, and completing workplace processes and documentation.

It applies to those working in the automotive service and repair industry. The basic electrical circuits include those in agricultural machinery, heavy commercial vehicles, light vehicles, vessels, motorcycles, mobile plant machinery or outdoor power equipment.

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

Competency Field

Electrical

Unit Sector

Technical - Electrical and Electronic

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 and italicised text is used, further information is detailed in the range of conditions section.

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Elements Elements describe the essential outcomes.	**Performance Criteria** Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold and italicised text is used, further information is detailed in the range of conditions section.
1. Prepare to test basic electrical circuit	1.1 Job requirements are determined according to workplace instructions 1.2 Testing procedures and information are accessed and interpreted 1.3 Fault finding options are analysed and those most appropriate to the circumstances are selected 1.4 Hazards associated with the work are identified and risks are managed 1.5 Tools and electrical test equipment are selected and checked for serviceability
2. Test circuit	2.1 Basic electrical circuit is checked to establish extent of failure or damage 2.2 Circuit is tested according to manufacturer specifications, workplace procedures and ***safety requirements***, and without causing damage to components or systems 2.3 Faults are identified from test results and causes of faults are determined 2.4 Findings are reported according to workplace procedures
3. Repair and check circuit	3.1 Repair procedures and information are accessed and interpreted 3.2 Repair options are analysed and most appropriate option is selected 3.3 Repair tools and materials are selected according to job requirements 3.4 Circuit components are repaired and adjusted according to manufacturer specifications, workplace procedures and safety requirements 3.5 Post-repair testing is carried out to confirm basic electrical circuit is operating correctly, any reported problems are resolved, and no other problems are present
4. Complete work processes	4.1 Final inspection is made to ensure work is to workplace expectations and vehicle or machinery is presented ready for use 4.2 Work area is cleaned, waste and non-recyclable materials are disposed of, and recyclable material is collected 4.3 Tools and equipment are checked and stored and any faulty electrical equipment is identified, tagged and isolated according to workplace procedures 4.4 Workplace documentation is processed according to workplace procedures

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Foundation Skills

This section describes those language, literacy, numeracy and employment skills that are essential to performance and are not explicit in the performance criteria.

Skills	Description
Learning skills to:	• locate appropriate sources of information efficiently.
Reading skills to:	• interpret text, symbols and wiring diagrams in information relating to basic electrical system testing and repair equipment from manufacturer specifications, and workplace instructions and procedures.
Writing skills to:	• legibly and accurately fill out workplace documentation relating to testing and repairing basic electrical circuits.
Oral communication skills to:	• clarify instructions.
Numeracy skills to:	• interpret vehicle electrical measurements and readings • measure voltage, current and resistance • use basic mathematical operations, including addition, subtraction, multiplication and division, to calculate deviations from manufacturer specifications.
Planning and organising skills to:	• plan own work requirements and prioritise actions to achieve required outcomes and ensure tasks are completed within workplace timeframes.
Technology skills to:	• use specialised tools, such as test lights and multimeters.

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.

Safety requirements must include:	• work health and safety (WHS) and occupational health and safety (OHS) requirements, including procedures for:
	  • using specialised tools and equipment
	  • selecting and using personal protective equipment (PPE)

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	• identifying hazards and controlling risks associated with wearing jewellery while working around electrical systems.

Unit Mapping Information

Equivalent to AURETR2012 Test and repair basic electrical circuits

Links

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Assessment Requirements for AURETR012 Test and repair basic electrical circuits

Modification History

Release	Comment
Release 1	New unit of competency.

Performance Evidence

Before competency can be determined, individuals must demonstrate they can perform the following according to the standard defined in the unit's elements, performance criteria, range of conditions and foundation skills:

- test a basic electrical circuit, including:
  - one short circuit across an electrical resistive load
  - one open circuit before or after an electrical resistive load
  - one high resistance circuit before or after an electrical resistive load
  - current flow and voltage drop across an electrical resistive load
- test for continuity in a basic wiring harness and visually check terminals in the wiring harness for moisture ingress and corrosion
- carry out four different circuit repairs that include:
  - crimping various terminal sizes
  - soldering wire gauges to terminals
  - applying heat shrink insulation to crimped or soldered joints
  - replacing male and female terminals in a connector housing
  - performing terminal retention checks to replaced terminals.

Knowledge Evidence

Individuals must be able to demonstrate knowledge of:

- work health and safety (WHS) and occupational health and safety (OHS) requirements relating to testing and repairing basic electrical circuits, including procedures for:
  - using specialised tools and equipment
  - selecting and using personal protective equipment (PPE)
  - identifying hazards and controlling risks associated with wearing jewellery while working around electrical systems

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- electrical principles, including:
  - current, voltage, resistance and power
  - series circuits
  - parallel circuits
  - series parallel circuits
  - Ohm's law
- key features of basic electrical circuit components, including:
  - cable types and sizes and current carrying capacity
  - circuit protection devices
  - switches
  - relays
  - automotive globes
- techniques for reading and interpreting technical information, including circuit types, diagrams and symbols
- procedures for using and operating electrical test equipment, including:
  - digital multimeters
  - test lights suitable for circuit testing, including resistive and light emitting diode (LED)
  - test probes suitable for testing circuit continuity
  - fused test lead
  - procedures for checking, identifying and isolating faulty equipment
- common types of faults, including:
  - open circuits
  - high resistance circuits
  - short circuits
  - damaged insulation
  - frayed wires
  - burnt wiring
  - water and moisture ingress
  - connector damage
  - terminal damage
- testing procedures for electrical systems, including:
  - accessing electrical terminals and using test probes without damaging connectors, fuse holders or wiring
  - electrical measuring and testing procedures, including:
    - electrical resistance checks
    - open and short circuit tests
    - voltage drop tests
    - current flow tests
  - visual testing procedures, including:

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    - component moisture ingress
    - connector damage
- repair procedures for electrical circuits, including:
    - wire soldering procedures
    - terminal crimping procedures
    - replacing male and female terminals in a connector housing
    - connector removal and replacement procedures
    - basic electrical components removal and replacement procedures
- post-repair testing procedures, including:
    - confirming that electrical system is operating to manufacturer specifications
    - confirming that no other problems are present as a result of the repair.

Assessment Conditions

Assessors must satisfy NVR/AQTF assessor requirements.

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

Assessment must include direct observation of tasks.

Where assessment of competency includes third-party evidence, individuals must provide evidence that links them to the basic electrical circuits they have tested and repaired, e.g. repair orders.

Assessors must verify performance evidence through questioning on skills and knowledge to ensure correct interpretation and application.

The following resources must be made available:

- automotive repair workplace or simulated workplace
- workplace instructions
- manufacturer electrical system specifications
- vehicle or machinery with faults in the basic electrical circuits specified in the performance evidence
- electrical test equipment to test basic electrical circuits and components
- consumable materials relevant to repairing basic electrical circuits and components, including connectors, terminals, wire, electrical tape and heat shrink sleeving
- electrical repair tools, equipment and materials relating to basic electrical circuits and components.

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Links

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AURETR015 Inspect, test and service batteries

Modification History

Release	Comment
Release 1	New unit of competency.

Application

This unit describes the performance outcomes required to inspect, test and service vehicle, vessel and machinery batteries. It involves preparing for the task, inspecting battery systems, servicing the systems, and completing workplace processes and documentation, including any associated recommendations for further action.

It applies to those working in the automotive service and repair industry. The battery systems include those in agricultural machinery, heavy commercial vehicles, light vehicles, vessels, motorcycles, mobile plant machinery or outdoor power equipment.

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

Competency Field

Electrical

Unit Sector

Technical - Electrical and Electronic

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 and italicised text is used, further information is detailed in the range of conditions section.

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Elements Elements describe the essential outcomes.	**Performance Criteria** Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold and italicised text is used, further information is detailed in the range of conditions section.
1. Prepare to inspect, test and service battery	1.1 Job requirements are determined according to workplace instructions 1.2 Inspection, testing and servicing procedures are accessed and interpreted 1.3 Hazards associated with the work are identified and risks are reported 1.4 ***Tools, equipment and materials*** are selected and checked for serviceability
2. Inspect and test battery	2.1 Battery systems are inspected and tested according to workplace procedures and ***safety requirements*** 2.2 Battery circuits are tested according to workplace procedures and without causing damage to components or systems 2.3 Inspection results are compared with manufacturer specifications 2.4 Inspection findings are reported according to workplace procedures, including recommendations for required repairs or adjustments
3. Service and maintain battery	3.1 Battery is serviced and maintained according to manufacturer and battery specifications, workplace procedures, and safety and ***environmental requirements***, and without causing damage to components or systems 3.2 Post-service testing is carried out to confirm battery is operating to manufacturer specifications, any reported problems are resolved, and no other problems are present
4. Complete work processes	4.1 Final inspection is made to ensure work is to workplace expectations and vehicle, vessel or machinery is presented ready for use 4.2 Work area is cleaned, waste and non-recyclable materials are disposed of, and recycle material is collected 4.3 Tools and equipment are checked and stored and any faulty electrical equipment is identified, tagged and isolated according to workplace procedures 4.4 Workplace documentation is processed according to workplace procedures

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Foundation Skills

This section describes those language, literacy, numeracy and employment skills that are essential to performance and are not explicit in the performance criteria.

Skills	Description
Learning skills to:	• locate battery information efficiently.
Reading skills to:	• interpret information from manufacturer and workshop literature when seeking battery service procedures and specifications.
Writing skills to:	• legibly and accurately fill out workplace documentation when reporting inspection findings, making recommendations, and recording parts and material used.
Oral communication skills to:	• clarify instructions and report inspection findings to appropriate personnel.

Numeracy skills to:	• match battery types and identification numbers to workplace instructions and manufacturer specifications
	• interpret and compare battery specifications and procedures, including:
	  • battery-specific gravity measurements
	  • cold cranking amp (CCA) measurements.

Technology skills to:	• use specialised tools and equipment when inspecting, testing and servicing batteries, including battery load testing devices and multimeters.

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.

Tools, equipment and materials must include:	• battery load testing device • multimeter • battery cleaning materials.
Safety requirements must include:	• work health and safety (WHS) and occupational health and safety (OHS) requirements, including procedures for: • selecting and using personal protective equipment (PPE), including clothing, and eye and hand protection

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	• working with high current electrical systems • manually handling batteries and toxic and corrosive substances • conducting risk assessments of battery, vehicle and equipment movement before carrying out work • working safely when using battery testing equipment.
Environmental requirements must include:	• procedures: • found in safety data sheets (SDS) relating to toxic and corrosive substances • for recycling and disposing of replaced batteries.

Unit Mapping Information

Equivalent to AURETR2015 Inspect and service batteries

Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=b4278d82-d487-4070-a8c4-78045ec695b1

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Assessment Requirements for AURETR015 Inspect, test and service batteries

Modification History

Release	Comment
Release 1	New unit of competency.

Performance Evidence

Before competency can be determined, individuals must demonstrate they can perform the following according to the standard defined in the unit's elements, performance criteria, range of conditions and foundation skills:

- inspect, test and service the batteries of three different vehicles, vessels or machinery, in which the work must involve one maintenance-free battery.

Knowledge Evidence

Individuals must be able to demonstrate knowledge of:

- work health and safety (WHS) and occupational health and safety (OHS) requirements relating to inspecting, testing and servicing batteries, including procedures for:
  - selecting and using personal protective equipment (PPE), including clothing, and eye and hand protection
  - working with high current electrical systems
  - manually handling batteries and toxic and corrosive substances
  - conducting risk assessments of battery, vehicle and equipment movement before carrying out work
  - working safely when using battery testing equipment
- environmental requirements, including procedures:
  - found in safety data sheets (SDS) relating to toxic and corrosive substances
  - for recycling and disposing of replaced batteries
- basic operating principles of batteries, including using chemical energy to produce electrical energy
- types of automotive batteries, including:
  - lead acid batteries
  - deep cycle batteries

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  - maintenance-free batteries
  - gel batteries
  - absorbed glass mat batteries
  - calcium batteries
  - lithium ion and lithium ion phosphate batteries
- battery classifications, including:
  - reserve capacity
  - amp hour rating
  - cold cranking amps
- battery connection methods for 6 volt, 12 volt, 24 volt and 48 volt, including:
  - series
  - parallel
  - series parallel
- inspection and testing procedures for batteries, including:
  - terminals and leads
  - battery securing system
  - testing battery with load testing devices
  - testing battery with a hydrometer
  - battery memory retention
- servicing procedures for batteries, including:
  - cleaning battery and battery compartments
  - topping up battery fluid
- post-service testing procedures, including confirming that battery is serviceable and operating to manufacturer specifications.

Assessment Conditions

Assessors must satisfy NVR/AQTF assessor requirements.

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

Assessment must include direct observation of tasks.

Where assessment of competency includes third-party evidence, individuals must provide evidence that links them to the batteries that they have inspected, tested and serviced, e.g. repair orders.

Assessors must verify performance evidence through questioning on skills and knowledge to ensure correct interpretation and application.

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The following resources must be made available:

- automotive repair workplace or simulated workplace
- workplace instructions
- manufacturer battery specifications
- PPE, including clothing, and eye and hand protection
- three different vehicles, vessels or machinery with batteries as specified in the performance evidence requiring servicing
- tools, equipment and materials appropriate for inspecting, testing and servicing batteries, including battery load testing devices, multimeters and cleaning materials.

Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=b4278d82-d487-4070-a8c4-78045ec695b1

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=b4278d82-d487-4070-a8c4-78045ec695b1

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AURSAA001 Process customer complaints in an automotive workplace

Modification History

Release	Comment
Release 1	New unit of competency.

Application

This unit describes the performance outcomes required to deal with formal and informal complaints and negative feedback from customers. It involves following established process steps to resolve issues and complaints in order to satisfy both internal and external customer complaints.

It applies to those working in the automotive sales and service industry.

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

Competency Field

Sales and Parts, Administration and Management

Unit Sector

Administration

Elements and Performance Criteria

Elements Elements describe the essential outcomes.	**Performance Criteria** Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold and italicised text is used, further information is detailed in the range of conditions section.
1. Clarify nature of	1.1 Details of complaint are established

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Elements Elements describe the essential outcomes.	**Performance Criteria** Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold and italicised text is used, further information is detailed in the range of conditions section.
complaint	1.2 Summary of complaint is documented accurately 1.3 Initial explanations about process and apologies appropriate to individual customer's situation are conveyed to customer
2. Identify options to resolve complaint	2.1 Possible options for resolving complaint are identified according to workplace procedures 2.2 Solutions outside individual level of responsibility are referred to supervisor
3. Act to resolve complaint	3.1 Chosen solution is outlined to customer according to workplace procedures 3.2 Chosen solution is implemented within required timeframe and conditions are negotiated with customer 3.3 Complaint is referred to supervisor if resolution is not possible or where additional levels of authorisation are required
4. Provide feedback on complaint resolution process	4.1 Effectiveness of complaint resolution solution is assessed against customer feedback 4.2 Changes required to improve complaint resolution procedures are identified and passed on to supervisor for consideration according to workplace procedures 4.3 Workplace documentation is processed according to workplace procedures

Foundation Skills

This section describes those language, literacy, numeracy and employment skills that are essential to performance and are not explicit in the performance criteria.

Skills	**Description**
Reading skills to:	• interpret information in warranties, terms and conditions, and receipts relevant to customer complaint.
Oral communication skills to:	• participate in verbal exchanges using active listening and questioning techniques to gather, clarify and confirm customer information and feedback • effectively relate to people from diverse backgrounds using clear language and tone of voice appropriate to situation.

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Skills	Description
Self-management skills to:	• follow workplace procedures and seek assistance from supervisor as required.
Problem solving skills to:	• apply basic conflict resolution skills for handling dissatisfied customers.

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.

There is no Range of Conditions for this unit.

Unit Mapping Information

Equivalent to AURSAA2001 Process customer complaints

Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=b4278d82-d487-4070-a8c4-78045ec695b1

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Assessment Requirements for AURSAA001 Process customer complaints in an automotive workplace

Modification History

Release	Comment
Release 1	New unit of competency.

Performance Evidence

Before competency can be determined, individuals must demonstrate that they can perform the following according to the standards defined in this unit's elements, performance criteria and foundation skills:

- process and resolve three different customer complaints in an automotive sales and service workplace or simulated environment.

Knowledge Evidence

Individuals must be able to demonstrate knowledge of:

- workplace operations relating to:
  - workplace products and services
  - location of departments, sections and contact details
- workplace procedures relating to:
  - customer service
  - dealing with dissatisfied customers
  - complaints handling and recommending appropriate action
  - reporting and registering complaints
- key legal requirements relating to customer rights as a consumer and business obligations under the Australian Consumer Law (ACL)
- effective communication techniques and the individual's role in processing customer complaints, including:
  - giving customers full attention
  - greeting and farewelling protocols
  - speaking clearly and concisely
  - using appropriate language and non-verbal communication, including:
    - tone of voice

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    - body language
    - personal presentation
  - using clear written information
  - dealing with people from diverse social, cultural and ethnic backgrounds and with varying physical and mental abilities
- basic negotiation and problem-solving techniques, including:
  - active listening
  - questioning techniques
  - interpreting body language
  - presenting options.

Assessment Conditions

Assessors must satisfy NVR/AQTF assessor requirements.

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

Assessment must include direct observation of tasks.

Where assessment of competency includes third-party evidence, individuals must provide evidence that links them to processing customer complaints in an automotive sales and service workplace, e.g. complaint summaries.

Assessors must verify performance evidence through questioning on skills and knowledge to ensure correct interpretation and application.

The following should be made available:

- automotive sales and service workplace or simulated workplace
- workplace procedures relating to customer service and complaints handling
- commercially realistic range of customers with different complaints.

Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=b4278d82-d487-4070-a8c4-78045ec695b1

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=b4278d82-d487-4070-a8c4-78045ec695b1

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AURSBA002 Identify and match uncommon automotive parts

Modification History

Release	Comment
Release 1	New unit of competency.

Application

This unit describes the performance outcomes required to identify uncommon or unusual automotive components, parts and products to meet customer vehicle requirements. It involves matching uncommon or unusual automotive parts or products to customer vehicle or equipment by cross-referencing manufacturer, model and other identifiable numbers using manuals, and computer-generated or online catalogue systems.

It applies to those working in the automotive sales and service industry.

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

Competency Field

Sales and Parts, Administration and Management

Unit Sector

Support and Logistics

Elements and Performance Criteria

Elements Elements describe the essential outcomes.	**Performance Criteria** Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold and italicised text is used, further information is detailed in the range of conditions section.
1. Determine required	1.1 Available information on required ***uncommon*** part is gathered,

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Elements Elements describe the essential outcomes.	**Performance Criteria** Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold and italicised text is used, further information is detailed in the range of conditions section.
information relating to uncommon part	documented and confirmed with customer 1.2 Original host for part is determined from available information
2. Identify and record details of part	2.1 Parts index system for host is identified and accessed 2.2 Part is matched accurately to cataloguing information by accessing and using parts index system, its aids and user guides, and potential suppliers are identified 2.3 Clarification regarding potential match is sought from supplier as required 2.4 Identifying details of part are documented and processed
3. Supply or order part	3.1 Part is supplied to customer or ordered if not in stock according to workplace procedures 3.2 Workplace documentation, including customer records, is processed according to workplace procedures

Foundation Skills

This section describes those language, literacy, numeracy and employment skills that are essential to performance and are not explicit in the performance criteria.

Skills	**Description**
Learning skills to:	• locate appropriate sources of information efficiently.
Writing skills to:	• legibly and accurately enter information into sales orders, workplace forms and databases.
Numeracy skills to:	• estimate and calculate timeframes for organising delivery and follow-up services.
Digital literacy skills to:	• use digital systems and tools to access, search and retrieve information relating to customers, parts and products.
Initiative skills to:	• apply analytical skills when identifying and analysing technical information when sourcing non-standard parts or products that meet a customer need.

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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.

Uncommon must include:	• parts or products that are:
	  • difficult to match
	  • vintage or obsolete
	  • not original.

Unit Mapping Information

Equivalent to AURSBA3002 Apply automotive parts interpretation process

Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=b4278d82-d487-4070-a8c4-78045ec695b1

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Assessment Requirements for AURSBA002 Identify and match uncommon automotive parts

Modification History

Release	Comment
Release 1	New unit of competency.

Performance Evidence

Before competency can be determined, individuals must demonstrate they can perform the following according to the standard defined in the unit's elements and performance criteria, range of conditions and foundation skills:

- identify and match one uncommon automotive part from the following categories for three different customers:
  - vintage part
  - obsolete part
  - non-original part.

Knowledge Evidence

Individuals must be able to demonstrate knowledge of:

- information gathering techniques, including:
  - active listening and questioning
  - effective face-to-face and telephone customer service
- common automotive terminology
- identification and function of automotive vehicle systems
- application and operation of automotive parts index systems, including:
  - catalogues
  - microfiche
  - computer databases
- key legal requirements relating to supplying uncommon automotive parts, including obligations under Australian Consumer Law (ACL).

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Assessment Conditions

Assessors must satisfy NVR/AQTF assessor requirements.

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

Assessment must include direct observation of tasks.

Where assessment of competency includes third-party evidence, individuals must provide evidence that links them to identifying and matching uncommon automotive parts, e.g. customer invoices.

Assessors must verify performance evidence through questioning on skills and knowledge to ensure correct interpretation and application.

The following resources must be made available:

- automotive sales and service workplace or simulated workplace
- three different customers with different commercially realistic requirements for uncommon parts
- automotive parts index systems, including:
  - catalogues
  - microfiche
  - computer databases.

Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=b4278d82-d487-4070-a8c4-78045ec695b1

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=b4278d82-d487-4070-a8c4-78045ec695b1

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AURSCA001 Select and supply automotive parts and products

Modification History

Release	Comment
Release 1	New unit of competency.

Application

This unit describes the performance outcomes required to identify, select and supply automotive parts and products to meet customer requirements. It involves matching a diverse range of automotive components, parts and products to a customer's vehicle or equipment by cross-referencing manufacturer, model and other identifiable numbers using manual, computer-generated and online catalogue systems.

It applies to those working in the automotive sales and service industry.

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

Competency Field

Sales and Parts, Administration and Management

Unit Sector

Sales and Marketing

Elements and Performance Criteria

Elements Elements describe the essential outcomes.	Performance Criteria Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold and italicised text is used, further information is detailed in the range of conditions section.
1. Determine required	1.1 Available information on required item is gathered, documented

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Elements Elements describe the essential outcomes.	**Performance Criteria** Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold and italicised text is used, further information is detailed in the range of conditions section.
information relating to part or product	and confirmed with customer 1.2 Original host for the part or product is determined from available information
2. Identify part or product and record details	2.1 Index system for part or product host is identified and accessed 2.2 Part or product is matched accurately with cataloguing information using the parts index system, its aids and user guides, and potential suppliers are identified 2.3 Clarification regarding potential match is sought from supplier as required 2.4 Identifying details of part or product are documented and processed
3. Supply or order part or product	3.1 Part is supplied to customer or ordered if not in stock according to workplace procedures 3.2 Workplace documentation, including customer records, is processed according to workplace procedures 3.3 Customer records are updated according to workplace procedures

Foundation Skills

This section describes those language, literacy, numeracy and employment skills that are essential to performance and are not explicit in the performance criteria.

Skills	**Description**
Learning skills to:	• locate appropriate sources of information efficiently.
Writing skills to:	• legibly and accurately enter information into sales orders, workplace forms and databases.
Numeracy skills to:	• estimate and calculate timeframes for organising delivery and follow-up services.
Digital literacy skills to:	• use digital systems and tools to access, search and retrieve information relating to customers, parts and products.
Initiative skills to:	• apply analytical skills when identifying and analysing technical information when sourcing parts or products that meet a customer need.

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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.

There is no Range of Conditions for this unit.

Unit Mapping Information

Equivalent to AURSCA2001 Select automotive parts and products

Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=b4278d82-d487-4070-a8c4-78045ec695b1

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Assessment Requirements for AURSCA001 Select and supply automotive parts and products

Modification History

Release	Comment
Release 1	New unit of competency.

Performance Evidence

Before competency can be determined, individuals must demonstrate they can perform the following according to the standard defined in the unit's elements, performance criteria and foundation skills:

- select and supply automotive parts or products from each of the following categories for three different customers:
  - service items, including filters, oils, coolants, spark plugs, fan belts, electrical accessories, sensors and actuators
  - non-specific items, including merchandise, apparel, cleaning products and tools
  - accessory items, including car mats, seat covers, lighting and vehicle covers.

Knowledge Evidence

Individuals must be able to demonstrate knowledge of:

- information gathering techniques, including:
  - active listening and questioning
  - effective face-to-face and telephone customer service
- common automotive terminology
- identification and function of automotive vehicle systems
- types and applications of the automotive parts and products specified in the performance evidence
- application and operation of automotive parts index systems, including:
  - catalogues
  - microfiche
  - computer databases
- key legal requirements relating to supplying automotive parts and products, including obligations under the Australian Consumer Law (ACL).

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Assessment Conditions

Assessors must satisfy NVR/AQTF assessor requirements.

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

Assessment must include direct observation of tasks.

Where assessment of competency includes third-party evidence, individuals must provide evidence that links them to selecting and supplying automotive parts and products, e.g. customer invoices.

Assessors must verify performance evidence through questioning on skills and knowledge to ensure correct interpretation and application.

The following resources must be made available:

- automotive sales and service workplace or simulated workplace
- three different customers with different commercially realistic requirements for automotive parts or products
- automotive parts index systems, including:
  - catalogues
  - microfiche
  - computer databases.

Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=b4278d82-d487-4070-a8c4-78045ec695b1

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=b4278d82-d487-4070-a8c4-78045ec695b1

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AURSCA002 Present automotive products and services for sale

Modification History

Release	Comment
Release 1	New unit of competency.

Application

This unit describes the performance outcomes required to present automotive products and services in a business sales area to maximise product and service impact on customers, and monitor and review customer feedback. It involves applying knowledge of automotive products and basic display concepts to maintain and maximise product and service sales and the overall appearance of the sales area.

It applies to those working in the automotive sales and service industry.

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

Competency Field

Sales and Parts, Administration and Management

Unit Sector

Sales and Marketing

Elements and Performance Criteria

Elements Elements describe the essential outcomes.	**Performance Criteria** Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold and italicised text is used, further information is detailed in the range of conditions section.
1. Maximise presentation	1.1 Stock presentation area is defined from floor and display plan,

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of sales area	observation of space available and work instructions 1.2 Minimum product numbers and types are determined and presented according to workplace procedures 1.3 Ancillary display materials are prepared to enhance presentation of stock 1.4 Stock display areas are kept clean, tidy and safe 1.5 Correct handling, storage and display techniques are used according to product types, workplace procedures and safety requirements
2. Display individual products	2.1 Display requirements are determined from workplace instructions 2.2 Product to be displayed is sourced according to workplace procedures 2.3 Product is displayed to ***maximise market appeal*** according to workplace procedures 2.4 Correct display labels, price tickets and ancillary materials are prepared and located with product 2.5 Product condition is monitored during display period and necessary action taken to maintain market appeal
3. Review effectiveness of presentation area	3.1 Feedback on display and presentation area is sought from customers 3.2 Action to improve presentation of stock and area is determined and acted on within scope of own role

Foundation Skills

This section describes those language, literacy, numeracy and employment skills that are essential to performance and are not explicit in the performance criteria.

Skills	**Description**
Reading skills to:	• interpret information from workplace instructions, floor and display plans, and product and service labelling and literature.
Writing skills to:	• legibly and accurately prepare display labels and price tickets.
Oral communication skills to:	• clarify instructions and make recommendations relating to display presentation.
Numeracy skills to:	• interpret numerical information in floor and display plans • use mathematical operations, including addition and subtraction, to estimate quantity and volume of product and stock.
Technology skills to:	• use specialised equipment to prepare labels and price tickets.

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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.

Maximising market appeal must include:	• ensuring product is clean and complete • locating product in a position that maximises presentation.

Unit Mapping Information

Equivalent to AURSCA2002 Present stock and sales area

Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=b4278d82-d487-4070-a8c4-78045ec695b1

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Assessment Requirements for AURSCA002 Present automotive products and services for sale

Modification History

Release	Comment
Release 1	New unit of competency.

Performance Evidence

Before competency can be determined, individuals must demonstrate they can perform the following according to the standards defined in this unit's elements, performance criteria, range of conditions and foundation skills:

- organise a display or presentation area in an automotive workplace for three different automotive products
- organise a display or presentation area in an automotive workplace for two different automotive services.

Knowledge Evidence

Individuals must be able to demonstrate knowledge of:

- work health and safety (WHS) and occupational health and safety (OHS) requirements relating to presenting products and services in an automotive workplace, including procedures for:
  - manually handling stock
  - ensuring clear walkways
  - handling chemicals and dangerous goods
  - using personal protective equipment (PPE)
- principles of display design, including:
  - creating impact
  - use of colour and illumination
  - accessibility and ease of maintenance
  - interactivity
- types and applications of display and presentation areas, including:
  - areas, including:
    - interior and exterior

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    - permanent and temporary
    - publicly accessible
  - display systems, including cable, rod and sign systems
  - showcases
  - brochure and information display systems
  - graphic display systems, including computer monitor, television and projector
- gaining feedback on effectiveness of display and presentation areas, including procedures for:
  - analysing sales
  - delivering and analysing simple customer questionnaires.

Assessment Conditions

Assessors must satisfy NVR/AQTF assessor requirements.

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

Assessment must include direct observation of tasks.

Where assessment of competency includes third-party evidence, individuals must provide evidence that links them to presenting automotive products and services for sale, e.g. sales area floor plan.

Assessors must verify performance evidence through questioning on skills and knowledge to ensure correct interpretation and application.

The following should be made available:

- automotive workplace or simulated workplace
- commercially realistic range of automotive services and products for sale
- commercially realistic presentation or display area
- materials needed for display of products and service information.

Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=b4278d82-d487-4070-a8c4-78045ec695b1

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=b4278d82-d487-4070-a8c4-78045ec695b1

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AURSCA003 Apply sales procedures in an automotive workplace

Modification History

Release	Comment
Release 1	New unit of competency.

Application

This unit describes the performance outcomes required to effectively apply sales procedures when selling a range of automotive products and services. It involves approaching customers, conveying product and service knowledge, overcoming customer objections, and closing off a sale.

It applies to those working in the automotive sales and service industry.

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

Competency Field

Sales and Parts, Administration and Management

Unit Sector

Sales and Marketing

Elements and Performance Criteria

Elements Elements describe the essential outcomes.	**Performance Criteria** Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold and italicised text is used, further information is detailed in the range of conditions section.
1. Develop product and sales knowledge	1.1 Use, features and application of products and services are researched and clarified as required

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Elements Elements describe the essential outcomes.	**Performance Criteria** Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold and italicised text is used, further information is detailed in the range of conditions section.
	1.2 Customer buying behaviour is researched 1.3 Experienced sales staff or product information guides are consulted to increase and confirm knowledge of products, services and sales techniques
2. Approach customer and address product or service requirements	2.1 ***Customer is approached*** according to workplace standards and customer behaviour 2.2 Customer buying motives and requirements are determined, and customer is guided to suitable product, service or specialist as required 2.3 Routine customer questions about features and benefits of product or service, including use and safety requirements, are responded to or referred to more experienced sales staff
3. Identify and resolve objections	3.1 Customer objections are identified and acknowledged 3.2 Solutions to objections are analysed in line with ***category of objection*** 3.3 Solutions to objections are offered within scope of own responsibility and according to workplace procedures
4. Close sale	4.1 Customer buying signals are monitored, identified and responded to 4.2 Method of closing sale to encourage customer purchase decision is selected and applied according to workplace procedures

Foundation Skills

This section describes those language, literacy, numeracy and employment skills that are essential to performance and are not explicit in the performance criteria.

Skills	**Description**
Reading skills to:	• interpret product and service information in workplace and manufacturer literature.
Oral communication skills to:	• convey positive and welcoming approach to customers • use questioning techniques and listening skills to determine customer requirements.
Numeracy skills to:	• use mathematical operations, including addition, subtraction, multiplication, division and percentages, to calculate price and

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Skills	Description
	discounts.
Digital literacy skills to:	• use digital systems and tools to access, search and retrieve information relating to customers, products and services.

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.

Customer approach must include:	• greeting customer according to workplace conventions and customer service standards • conveying a positive impression to encourage customer interest • interpreting customer non-verbal communication cues.
Category of objections must include consideration of:	• characteristics and features of merchandise • price of merchandise.

Unit Mapping Information

Equivalent to AURSCA2003 Apply sales procedures

Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=b4278d82-d487-4070-a8c4-78045ec695b1

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Assessment Requirements for AURSCA003 Apply sales procedures in an automotive workplace

Modification History

Release	Comment
Release 1	New unit of competency.

Performance Evidence

Before competency can be determined, individuals must demonstrate they can perform the following according to the standards defined in this unit's elements, performance criteria, range of conditions and foundation skills:

- engage with three potential automotive customers and respond to their enquiries regarding product and service features in line with workplace customer service standards
- sell automotive products or services to three different customers.

Knowledge Evidence

Individuals must be able to demonstrate knowledge of:

- product and service knowledge applicable to automotive workplace, including:
  - specific product knowledge for area or section
  - company merchandise and service range
  - stock databases and service delivery calendar
  - equipment safety features
  - warranties and conditions
  - price and discounts available
- customer types and needs, including:
  - customer behaviour and cues
  - customer buying motivations, including functional and emotional motivation
  - demographics, lifestyle and income
  - individual and cultural differences
- key features of automotive industry codes of practice and statutory requirements that are reflected in workplace procedures relating to:
  - sale of products and services

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    - consumer rights and protection
- sales techniques relating to selling products and services in an automotive workplace, including:
    - techniques for opening and closing a sale
    - recognising buying signals
    - overcoming customer objections
    - strategies to focus customers on specific merchandise
- common workplace procedures relating to:
    - analysing individual and workplace sales performance
    - handling customer complaints.

Assessment Conditions

Assessors must satisfy NVR/AQTF assessor requirements.

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

Assessment must include direct observation of tasks.

Where assessment of competency includes third-party evidence, individuals must provide evidence that links them to applying sales techniques when selling automotive products and services in an automotive sales and service workplace, e.g. sales invoices.

Assessors must verify performance evidence through questioning on skills and knowledge to ensure correct interpretation and application.

The following should be made available:

- automotive sales and service workplace or simulated workplace
- workplace procedures relating to sales and customer service
- commercially realistic range of automotive retail products and services for sale
- product and service information
- three different customers with commercially realistic product and service needs.

Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=b4278d82-d487-4070-a8c4-78045ec695b1

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=b4278d82-d487-4070-a8c4-78045ec695b1

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AURSCA004 Carry out cash and non-cash payment operations

Modification History

Release	Comment
Release 1	New unit of competency.

Application

This unit describes the performance outcomes required to undertake cash and non-cash transactions and prepare and distribute invoices.

It applies to those working in administration and sales finance roles in the automotive sales and service industry.

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

Competency Field

Sales and Parts, Administration and Management

Unit Sector

Sales and Marketing

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 and italicised text is used, further information is detailed in the range of conditions section.

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Elements Elements describe the essential outcomes.	**Performance Criteria** Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold and italicised text is used, further information is detailed in the range of conditions section.
1. Handle cash and non-cash payment transactions	1.1 Transaction amount is determined taking into account factors that impact on the balance 1.2 Cash is received and counted, and correct change is given 1.3 Credit and debit card transactions are processed using correct equipment and according to financial provider and workplace procedures 1.4 Cheques are received and examined for correctness 1.5 Cash, cheques and credit and debit card records are stored according to workplace procedures 1.6 Irregularities are noted and referred to supervisor for resolution 1.7 Receipts are issued and transactions documented according to workplace procedures
2. Carry out invoicing procedures	2.1 Invoicing requirements are determined and calculations performed to produce accurate customer invoices 2.2 Documentation is completed and content checked for accuracy 2.3 Invoices are distributed to appropriate persons or section for verification and approval prior to being dispatched 2.4 Approved invoices are dispatched within designated timeframes 2.5 Invoice copies are filed for auditing purposes according to workplace procedures

Foundation Skills

This section describes those language, literacy, numeracy and employment skills that are essential to performance and are not explicit in the performance criteria.

Skills	Description
Reading skills to:	• interpret information in a range of financial operation documentation and workplace procedures.
Writing skills to:	• legibly and accurately prepare receipts and invoices relating to transactions.
Oral communication skills	• participate in verbal exchanges to convey and clarify information

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Skills	Description
to:	relating to irregularities in payment transactions.
Numeracy skills to:	• perform mathematical operations, including, addition, subtraction, multiplication, division, percentages and fractions, to determine accurate pricing and payment requirements.
Digital literacy skills to:	• use digital systems and tools to access, search and retrieve information relating to financial information.
Technology skills to:	• use workplace office or sales equipment when processing financial transactions • use workplace and point-of-sale technology to process a sale.

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.

There is no Range of Conditions for this unit.

Unit Mapping Information

Equivalent to AURSCA2004 Carry out cash, credit and funds transfers

Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=b4278d82-d487-4070-a8c4-78045ec695b1

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Assessment Requirements for AURSCA004 Carry out cash and non-cash payment operations

Modification History

Release	Comment
Release 1	New unit of competency.

Performance Evidence

Before competency can be determined, individuals must demonstrate they can perform the following according to the standards defined in this unit's elements, performance criteria and foundation skills:

- determine transaction amount and conduct one of each of the following different payment operations:
  - cash
  - credit or debit card
  - cheque
- prepare three invoices for different products or services and submit them for payment.

Knowledge Evidence

Individuals must be able to demonstrate knowledge of:

- key legal requirements relating to carrying out cash and non-cash payment operations, including obligations under the Australian Consumer Law (ACL)
- factors to be considered when calculating final price, including:
  - goods and services tax (GST)
  - sales, discounts and promotions
  - deposits and partial payments
- procedures for carrying out cash and non-cash operations, including:
  - calculating sales balance
  - receiving and counting money
  - common sales security procedures for handling cash
  - calculating and returning change, including using:
    - manual methods

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    - point-of-sale (POS) equipment
  - receiving and processing cheques
  - using electronic funds transfer at point-of-sale (EFTPOS) equipment
  - issuing receipts
- operation and maintenance of common sales equipment, including:
  - calculators
  - POS equipment, including procedures for changing receipt rolls
  - EFTPOS terminals
- procedures for preparing and distributing invoices, including:
  - types and applications of invoices
  - required contents of invoices
  - common types of software for producing invoices
  - common methods of distributing invoices to customers.

Assessment Conditions

Assessors must satisfy NVR/AQTF assessor requirements.

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

Assessment must include direct observation of tasks.

Where assessment of competency includes third-party evidence, individuals must provide evidence that links them to having carried out cash and non-cash payment operations in an automotive sales and service workplace, e.g. sales receipts and invoices.

Assessors must verify performance evidence through questioning on skills and knowledge to ensure correct interpretation and application.

The following should be made available:

- sales and service workplace or simulated workplace
- workplace procedures for carrying out cash and non-cash payment operations and distributing invoices
- commercially realistic situations involving cash and non-cash payment transactions
- point-of-sale software
- computer hardware, software and business equipment required for processing cash and non-cash transactions and preparing invoices.

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Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=b4278d82-d487-4070-a8c4-78045ec695b1

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AURSCA005 Sell automotive products and services

Modification History

Release	Comment
Release 1	New unit of competency.

Application

This unit describes the performance outcomes required to sell products and services in an automotive retail environment. It involves identifying potential sales opportunities, and presenting, demonstrating and selling a range of automotive products and services.

It applies to those working in the automotive sales and service industry.

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

Competency Field

Sales and Parts, Administration and Management

Unit Sector

Sales and Marketing

Elements and Performance Criteria

Elements Elements describe the essential outcomes.	**Performance Criteria** Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold and italicised text is used, further information is detailed in the range of conditions section.
1. Engage customer and identify potential sale	1.1 Welcoming customer environment is maintained and customer is approached in a timely and professional manner according to workplace procedures

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Elements Elements describe the essential outcomes.	**Performance Criteria** Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold and italicised text is used, further information is detailed in the range of conditions section.
	1.2 Appropriate interpersonal skills are used to engage the customer 1.3 Customer needs and expectations for specific products and services are identified through questioning and active listening
2. Present and demonstrate product or service to customer	2.1 Product or service options that best meet customer needs are selected 2.2 Product or service features, functions and accessories are explained and demonstrated, eliciting customer interaction 2.3 Customers are given the opportunity, if appropriate, to test or trial the product or service 2.4 Customers are assisted to identify their preferred option
3. Obtain customer agreement to purchase product or service	3.1 Price for product or service is discussed or negotiated and agreed 3.2 Sale is made using appropriate closing technique 3.3 Sale is processed and documented according to workplace procedures
4. Complete transaction and customer follow-up procedures	4.1 Product or service transaction is supplied or delivered to customer according to supplier specifications and workplace delivery procedures 4.2 Customer satisfaction is determined and remedial action is taken as required to maximise repeat business or referral opportunities 4.3 Opportunities for value adding or repeat sales are identified and follow-up action is taken as required 4.4 Customer records are completed and plans are developed for follow-up of potential new sales of products and services

Foundation Skills

This section describes those language, literacy, numeracy and employment skills that are essential to performance and are not explicit in the performance criteria.

Skills	**Description**
Learning skills to:	• locate appropriate sources of information efficiently.
Reading skills to:	• interpret textual and numerical information in product or service documentation to provide customer advice • interpret key information in sales documentation and work

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Skills	Description
	instructions to determine required action.
Writing skills to:	• legibly and accurately enter information into sales orders, workplace forms and databases.
Numeracy skills to:	• use basic mathematical operations, including addition, subtraction, multiplication and division, to calculate quantities and prices • estimate and calculate timeframes for organising delivery and follow-up services.
Digital literacy skills to:	• use digital systems and tools to access, search, and retrieve information relating to customers, products and services.
Problem solving skills to:	• resolve routine problems relating to product availability and service delivery.
Technology skills to:	• operate specialised point-of-sale equipment.

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.

There is no Range of Conditions for this unit.

Unit Mapping Information

Equivalent to AURSCA2005 Sell products

Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=b4278d82-d487-4070-a8c4-78045ec695b1

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Assessment Requirements for AURSCA005 Sell automotive products and services

Modification History

Release	Comment
Release 1	New unit of competency.

Performance Evidence

Before competency can be determined, individuals must demonstrate they can perform the following according to the standards defined in this unit's elements, performance criteria and foundation skills:

- sell automotive products or services to three different customers in an automotive sales and service workplace or simulated location.

Knowledge Evidence

Individuals must be able to demonstrate knowledge of:

- sales communication techniques, including:
  - customer buying signals
  - effective face-to-face and telephone selling techniques
  - upselling and value adding sales techniques
  - active listening and questioning techniques
  - strategies for dealing with dissatisfied customers
- key features of loyalty programs and strategies for encouraging repeat business
- workplace procedures relating to:
  - sales processes
  - dealing with customers
  - complaints handling
  - consumer rights and responsibilities
- key features of point-of-sale equipment, stock databases and service delivery calendars
- key legal requirements relating to selling automotive products and services, including obligations under the Australian Consumer Law (ACL).

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Assessment Conditions

Assessors must satisfy NVR/AQTF assessor requirements.

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

Assessment must include direct observation of tasks.

Where assessment of competency includes third-party evidence, individuals must provide evidence that links them to having sold a range of automotive products and services, e.g. sales invoices.

Assessors must verify performance evidence through questioning on skills and knowledge to ensure correct interpretation and application.

The following resources must be made available:

- automotive sales and service workplace or simulated location
- workplace procedures relating to customer sales and service
- product and service information
- commercially realistic range of automotive retail products and services
- point-of-sale equipment
- three different customers with commercially realistic sales needs.

Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=b4278d82-d487-4070-a8c4-78045ec695b1

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=b4278d82-d487-4070-a8c4-78045ec695b1

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AURSCA006 Promote automotive products and services

Modification History

Release	Comment
Release 1	New unit of competency.

Application

This unit describes the performance outcomes required to promote automotive products and services. It involves applying a high level of product or service knowledge, promoting products and services to current and potential customers, establishing on-selling opportunities in a sales situation, and recommending complementary products and services to customers.

It applies to those working in the automotive sales and service industry.

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

Competency Field

Sales and Parts, Administration and Management

Unit Sector

Sales and Marketing

Elements and Performance Criteria

Elements Elements describe the essential outcomes.	**Performance Criteria** Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold and italicised text is used, further information is detailed in the range of conditions section.
1. Develop knowledge of automotive products	1.1 Use, purpose and application of products and services are researched and clarified as required

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Elements Elements describe the essential outcomes.	**Performance Criteria** Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold and italicised text is used, further information is detailed in the range of conditions section.
and services	1.2 ***Comparisons*** between available products and services, including complementary products and services, are researched and interpreted 1.3 Workplace promotional and marketing activities relevant to products and services are researched and interpreted
2. Identify and match customer needs to products and services	2.1 Customer buying motives and requirements are determined through questioning, active listening and non-verbal communication cues 2.2 Customer is guided to product or service that matches their identified buying motives and requirements 2.3 Features and benefits of product or service and relevance to customer requirements are explained and highlighted 2.4 Demonstrations are conducted and aligned to customer buying motives and requirements according to workplace marketing and sales practices 2.5 Selling techniques are used according to workplace procedures and legal requirements
3. Maximise sales opportunities	3.1 Opportunities for making additional sales are recognised and applied 3.2 On-sell opportunities are assessed through knowledge of customer needs and available complementary automotive products and services 3.3 Customer need and interest in additional or complementary products and services are determined 3.4 Benefits of additional or complementary products and services are discussed and promoted to customer

Foundation Skills

This section describes those language, literacy, numeracy and employment skills that are essential to performance and are not explicit in the performance criteria.

Skills	**Description**
Learning skills to:	• research and compare automotive products and services and workplace promotional campaigns to maintain currency of knowledge.

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Skills	Description
Reading skills to:	• interpret product and service specifications and promotional materials to advise customers • interpret and analyse customer information for on-selling opportunities.
Writing skills to:	• legibly and accurately prepare quotes and complete workplace forms and documentation relating to sales or promotional activities.
Oral communication skills to:	• describe and explain features and benefits of products and services using clear, jargon-free language, and tone and pace appropriate for customer.
Numeracy skills to:	• use mathematical operations, including addition, subtraction, multiplication, division and percentages, to estimate and calculate costs for customers.
Digital literacy skills to:	• use digital systems and tools to access, search and retrieve information relating to customers, products and services.
Technology skills to:	• demonstrate automotive products and services.

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.

Comparisons must include:	• brand options • features of compared product or service • price of compared product or service.

Unit Mapping Information

Equivalent to AURSCA2006 Promote products and services

Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=b4278d82-d487-4070-a8c4-78045ec695b1

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Assessment Requirements for AURSCA006 Promote automotive products and services

Modification History

Release	Comment
Release 1	New unit of competency.

Performance Evidence

Before competency can be determined, individuals must demonstrate they can perform the following according to the standards defined in this unit's elements, performance criteria, range of conditions and foundation skills:

- promote different automotive products or services to three different customers in line with workplace customer service standards.

Knowledge Evidence

Individuals must be able to demonstrate knowledge of:

- methods used to promote products and services, including:
  - strengths, weaknesses, opportunities and threats (SWOT) analysis
  - marketing and research techniques
  - face-to-face selling techniques
  - active listening and questioning techniques
  - upselling and value adding sales techniques
  - negotiation strategies when dealing with dissatisfied customers
  - loyalty programs and strategies for encouraging repeat business
- customer types, including:
  - customer buying signals and buyer behaviour
  - individual and cultural differences
- sources of information about automotive products and services and related promotional activities
- comparable products and services of major competitors
- workplace procedures relating to promotional processes and marketing activities, including marketing campaigns and advertising materials
- workplace procedures relating to promoting automotive products and services, including:

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- consumer protection
- automotive industry codes of practice relating to sales
- advertising codes of practice.

Assessment Conditions

Assessors must satisfy NVR/AQTF assessor requirements.

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

Assessment must include direct observation of tasks.

Where assessment of competency includes third-party evidence, individuals must provide evidence that links them to having promoted products and services in an automotive workplace, e.g. sales invoices.

Assessors must verify performance evidence through questioning on skills and knowledge to ensure correct interpretation and application.

The following resources must be made available:

- automotive sales and service workplace or simulated location
- workplace procedures relating to promotional sales activities
- sales material, including product and service information
- commercially realistic range of customers requiring different automotive products and services
- commercially realistic range of automotive retail products and services and associated promotional activities.

Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=b4278d82-d487-4070-a8c4-78045ec695b1

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=b4278d82-d487-4070-a8c4-78045ec695b1

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AURSLA001 Comply with legal requirements when selling automotive products and services

Modification History

Release	Comment
Release 1	New unit of competency.

Application

This unit describes the performance outcomes required to locate, interpret and comply with legal requirements relating to the sale of automotive products and services to customers.

It applies to those working in the automotive sales and service industry.

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

Competency Field

Sales and Parts, Administration and Management

Unit Sector

Regulatory or Legal

Elements and Performance Criteria

Elements Elements describe the essential outcomes.	**Performance Criteria** Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold and italicised text is used, further information is detailed in the range of conditions section.
1. Identify legal requirements and procedures relating to	1.1 Legislation relating to selling automotive products or services is accessed and interpreted 1.2 Legal requirements specific to the sale of the automotive

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Elements Elements describe the essential outcomes.	**Performance Criteria** Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold and italicised text is used, further information is detailed in the range of conditions section.
sale of automotive products and services	workplace product or service range are identified 1.3 Workplace procedures relating to complying with legal requirements are sourced and interpreted
2. Sell product or service in compliance with legal requirements	2.1 Product or service is sold according to workplace procedures and identified legal requirements 2.2 Customer transaction is handled according to consumer legislation 2.3 Accurate advice and information are provided to customers about product and consumer rights 2.4 Advice is sought from supervisor where clarification or assistance is needed
3. Record required information on product or service sale documentation	3.1 Correct product or service sale documentation is selected and accessed according to workplace procedures 3.2 Clear and accurate information is provided on sales documentation to comply with legal requirements 3.3 Signed acknowledgement of information provided is obtained from customer, as required 3.4 Sales documentation is completed and stored according to workplace procedures

Foundation Skills

This section describes those language, literacy, numeracy and employment skills that are essential to performance and are not explicit in the performance criteria.

Skills	**Description**
Learning skills to:	• keep up-to-date with changes relating to legal requirements in the sale of automotive products and services.
Reading skills to:	• interpret key legal information in sales and related documentation.
Writing skills to:	• legibly and accurately complete required sections of sales documentation to comply with legal requirements.
Oral communication skills to:	• give clear and accurate information and instructions to customers relating to legal requirements, and respond to questions correctly • participate in verbal exchanges relating to automotive products

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Skills	Description
	using pace, tone and gestures suited to customers from diverse backgrounds.
Numeracy skills to:	• interpret and explain numerical information relating to cost and time limitations to customers.
Digital literacy skills to:	• access, search and retrieve information relating to legal requirements, customers and automotive products and services.
Planning and organising skills to:	• sequence and plan handover of sales and product or service information to customers.
Technology skills to:	• demonstrate the safe operation of automotive products • use business technology to complete sales documentation and satisfy storage requirements.

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.

There is no Range of Conditions for this unit.

Unit Mapping Information

Equivalent to AURSLA2001 Apply legal requirements relating to product sale

Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=b4278d82-d487-4070-a8c4-78045ec695b1

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Assessment Requirements for AURSLA001 Comply with legal requirements when selling automotive products and services

Modification History

Release	Comment
Release 1	New unit of competency.

Performance Evidence

Before competency can be determined, individuals must demonstrate they can perform the following according to the standards defined in this unit's elements, performance criteria and foundation skills:

- sell different automotive products or services to three different customers, in which the sale must involve:
  - complying with legal requirements
  - providing accurate product or service and consumer information to customers
  - correctly completing required sales documentation.

Knowledge Evidence

Individuals must be able to demonstrate knowledge of:

- requirements of relevant legislation, standards and codes of conduct relating to the sale of automotive products and services, including consumer rights and guarantees under the Australian Consumer Law (ACL), including:
  - consumer guarantees applying to products
  - consumer guarantees applying to services
  - exceptions to consumer guarantees
  - compensation for damages and loss
  - manufacturer's liability for faulty products
  - lawful wording of refund and return signs
  - customer complaint resolution
- roles of the Australian Competition and Consumer Commission (ACCC) in relation to consumer guarantees, including:
  - providing guidance on consumer guarantees
  - investigating complaints

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    - taking action on behalf of individuals
- types and application of product sale documentation, including procedures for completing and storing documentation.

Assessment Conditions

Assessors must satisfy NVR/AQTF assessor requirements.

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

Assessment must include direct observation of tasks.

Where assessment of competency includes third-party evidence, individuals must provide evidence that links them to having complied with legal requirements when selling automotive products and services, e.g. sales invoices.

Assessors must verify performance evidence through questioning on skills and knowledge to ensure correct interpretation and application.

The following resources must be made available:

- automotive sales and service workplace or simulated workplace
- workplace procedures relating to automotive product and service sales
- access to requirements of relevant legislation, standards and codes of conduct relating to the sale of automotive products and services, including consumer rights and guarantees under the ACL
- three different customers
- different automotive products or services for sale
- documentation required to complete a sale and fulfil legal requirements.

Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=b4278d82-d487-4070-a8c4-78045ec695b1

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AURTNA001 Estimate and quote automotive vehicle or machinery modifications

Modification History

Release	Comment
Release 1	New unit of competency.

Application

This unit describes the performance outcomes required to prepare a quotation to modify the mechanical, electrical or body systems of a vehicle or machinery in order to estimate and calculate the costs, including materials, labour and overhead costs, of the modification. Mechanical and electrical systems and body enhancement kit modifications must comply with Australian Design Rules and Vehicle Safety Bulletins.

It applies to those working in the automotive service and repair industry. It includes quotations for light vehicles, heavy vehicles, agricultural machinery and mobile plant machinery, recreational vehicles or motorcycles. The unit does not apply to estimating and quoting on vehicle body structural repairs.

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

Competency Field

Mechanical Miscellaneous

Unit Sector

Loss Assessment or Repair Quoting

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Elements and Performance Criteria

Elements Elements describe the essential outcomes.	**Performance Criteria** Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold and italicised text is used, further information is detailed in the range of conditions section.
1. Prepare to quote	1.1 Modification requirements are identified and clarified with customer 1.2 Workplace quotation information and recommended labour time guides are sourced and interpreted 1.3 Job cost estimation and calculation details are sourced and interpreted
2. Estimate cost to modify vehicle or machinery	2.1 Estimated time requirements for job are calculated and compared to recommended labour time guides and previous similar completed estimates 2.2 Feasibility of using replacement parts instead of refurbished parts is evaluated in line with original equipment manufacturer (OEM) specifications 2.3 Replacement or refurbished parts required for job are included in quotation 2.4 Parts and consumables are costed according to workplace pricing procedures 2.5 Parts and work needing to be subcontracted are identified and costed 2.6 Potential variations are identified and noted 2.7 Job labour cost estimate is documented and agreed with workplace supervisor 2.8 Quotation variations relating to unsighted damage are noted and prepared for customer acceptance 2.9 Final estimate is reviewed by workplace supervisor and quotation is finalised

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Elements Elements describe the essential outcomes.	**Performance Criteria** Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold and italicised text is used, further information is detailed in the range of conditions section.
3. Complete quotation processes	3.1 Detailed quotation is provided to customer for approval 3.2 Approval from customer to commence work and undertake any supplementary quotation work is obtained as required 3.3 Documentation is completed and quotation stored according to workplace procedures

Foundation Skills

This section describes those language, literacy, numeracy and employment skills that are essential to performance and are not explicit in the performance criteria.

Skills	**Description**
Reading skills to:	• interpret job requirement information, OEM specifications and procedures, and labour time guides efficiently.
Writing skills to:	• legibly and accurately complete: • vehicle inspection or proposed modification report • modification quotation.
Oral communication skills to:	• participate in verbal exchanges using active listening and questioning techniques to gather, clarify and confirm customer information and feedback.
Numeracy skills to:	• use mathematical equations, including addition, subtraction, multiplication, division and percentages, to perform calculations and check accuracy of costs of options and solutions.

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Skills	Description
Digital literacy skills to:	• use digital systems and tools to access, search and retrieve information relating to products and services.
Technology skills to:	• use workplace technology to assist in preparing a modification quotation.

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.

There is no Range of Conditions for this unit.

Unit Mapping Information

Equivalent to AURTNA5001 Estimate and calculate costs to repair, maintain or modify a vehicle

Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=b4278d82-d487-4070-a8c4-78045ec695b1

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Assessment Requirements for AURTNA001 Estimate and quote automotive vehicle or machinery modifications

Modification History

Release	Comment
Release 1	New unit of competency.

Performance Evidence

Before competency can be determined, individuals must demonstrate they can perform the following according to the standard defined in the unit's elements, performance criteria and foundation skills:

- estimate and quote modifications to three different vehicles or machinery, including:
  - one mechanical modification
  - one electrical modification
  - one body modification.

Knowledge Evidence

Individuals must be able to demonstrate knowledge of:

- work health and safety (WHS) and occupational health and safety (OHS) requirements relating to estimating and quoting vehicle or machinery modifications, including:
  - quality requirements
  - reporting and recording procedures
  - procedures for selecting and using personal protective equipment (PPE) and hand tools
- location and content of:
  - original equipment manufacturer (OEM) specifications and workplace procedures
  - costing catalogues
  - labour time guides
- principles of estimating and job costing
- procedures and processes for identifying, apportioning, validating and documenting total costs for work, including components of estimates and job costings, including:
  - labour
  - parts

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  - costs relating to required external products or services
- requirements of Australian Design Rules (ADRs) and Vehicle Safety Bulletins (VSBs) relating to mechanical and electrical system and body enhancement modifications.

Assessment Conditions

Assessors must satisfy NVR/AQTF assessor requirements.

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

Assessment must include direct observation of tasks.

Where assessment of competency includes third-party evidence, individuals must provide evidence that links them to having provided a quotation relating to a vehicle or machinery modification, e.g. quotations.

Assessors must verify performance evidence through questioning on skills and knowledge to ensure correct interpretation and application.

The following resources must be made available:

- automotive repair workplace or simulated workplace
- three different vehicles or machinery requiring estimates and quotes relating to mechanical and electrical system or body enhancement modifications
- OEM specifications and workplace procedures
- labour time guides
- office equipment, including calculators, computer, internet and software
- manufacturer and component refurbishing costing guides.

Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=b4278d82-d487-4070-a8c4-78045ec695b1

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=b4278d82-d487-4070-a8c4-78045ec695b1

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AURTTA017 Carry out vehicle safety inspections

Modification History

Release	Comment
Release 1	New unit of competency.

Application

This unit describes the performance outcomes required to carry out a vehicle safety inspection, compare findings with manufacturer specifications, and report those findings. It involves preparing for the task, carrying out a vehicle safety inspection, and completing workplace processes and documentation.

It applies to those working in the automotive service and repair industry.

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

Competency Field

Mechanical Miscellaneous

Unit Sector

Technical

Elements and Performance Criteria

Elements Elements describe the essential outcomes.	**Performance Criteria** Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold and italicised text is used, further information is detailed in the range of conditions section.
1. Prepare to carry out a vehicle safety	1.1 Job requirements are determined from workplace instructions 1.2 Vehicle safety inspection procedures and information are sourced

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Elements Elements describe the essential outcomes.	**Performance Criteria** Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold and italicised text is used, further information is detailed in the range of conditions section.
inspection	and interpreted 1.3 Vehicle safety inspection options are analysed and those most appropriate to the circumstances are selected 1.4 Hazards associated with the work are identified and risks are managed 1.5 Tools and equipment are selected and checked for serviceability
2. Complete vehicle safety inspection	2.1 Vehicle safety inspection is carried out according to manufacturer specifications, workplace procedures and ***safety requirements***, and without causing damage to any components or system 2.2 Vehicle components are compared to manufacturer specifications, and vehicle system tolerances outside vehicle manufacturer specifications are highlighted 2.3 Vehicle safety inspection report is completed according to workplace procedures
3. Complete work processes	3.1 Final inspection is made to ensure work is to workplace expectations and vehicle is presented ready for use 3.2 Work area is cleaned, waste and non-recyclable materials are disposed of, and recyclable material is collected 3.3 Tools and equipment are checked and stored according to workplace procedures 3.4 Workplace documentation is processed according to workplace procedures

Foundation Skills

This section describes those language, literacy, numeracy and employment skills that are essential to performance and are not explicit in the performance criteria.

Skills	**Description**
Learning skills to:	• locate appropriate sources of information efficiently.
Reading skills to:	• interpret information from manufacturer and workplace literature when seeking vehicle specifications and safety inspection procedures.
Writing skills to:	• legibly and accurately fill out workplace documentation,

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Skills	Description
	including vehicle safety inspection reports.
Oral communication skills to:	• clarify instructions.
Numeracy skills to:	• measure vehicle components and use basic mathematical operations, including addition and subtraction, to calculate distances, tolerances and deviations from manufacturer specifications.
Planning and organising skills to:	• plan own work requirements and prioritise actions to achieve required outcomes and ensure tasks are completed within workplace timeframes.
Technology skills to:	• use measuring equipment, such as vernier calipers, micrometers and dial indicators.

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.

Safety requirements must include:	• work health and safety (WHS) and occupational health and safety (OHS) requirements, including procedures for lifting and supporting vehicles.

Unit Mapping Information

Equivalent to AURTTA3017 Carry out vehicle safety and roadworthy inspections

Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=b4278d82-d487-4070-a8c4-78045ec695b1

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Assessment Requirements for AURTTA017 Carry out vehicle safety inspections

Modification History

Release	Comment
Release 1	New unit of competency.

Performance Evidence

Before competency can be determined, individuals must demonstrate they can perform the following according to the standards defined in this unit's elements, performance criteria, range of conditions and foundation skills:

- carry out the safety inspections of three different vehicles
- produce separate vehicle safety reports relating to the above inspections.

Knowledge Evidence

Individuals must be able to demonstrate knowledge of:

- work health and safety (WHS) and occupational, health and safety (OHS) requirements relating to carrying out vehicle safety inspections, including procedures for lifting and supporting vehicles
- methods for sourcing vehicle specifications
- vehicle and component safety inspection procedures
- types of vehicle safety inspection reports.

Assessment Conditions

Assessors must satisfy NVR/AQTF assessor requirements.

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

Assessment must include direct observation of tasks.

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Where assessment of competency includes third-party evidence, individuals must provide evidence that links them to the vehicles that they have inspected, e.g. repair orders.

Assessors must verify performance evidence through questioning on skills and knowledge to ensure correct interpretation and application.

The following resources must be made available:

- automotive workplace or simulated workplace
- vehicle manufacturer specifications
- three different vehicles requiring safety inspections
- tools and equipment for carrying out vehicle safety inspections.

Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=b4278d82-d487-4070-a8c4-78045ec695b1

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=b4278d82-d487-4070-a8c4-78045ec695b1

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AURTTB001 Inspect and service braking systems

Modification History

Release	Comment
Release 1	New unit of competency.

Application

This unit describes the performance outcomes required to inspect and service braking systems according to manufacturer specifications. It involves preparing for the task, inspecting the system, reporting the inspection findings, servicing and adjusting the system, and completing workplace processes and documentation.

It applies to those working in the automotive service and repair industry. The braking systems include those of agricultural machinery, heavy commercial vehicles, light vehicles, motorcycles, mobile plant machinery, outdoor power equipment or trailers. The braking systems may be hydraulic, air over hydraulic, air, mechanical, or hand and parking braking systems.

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

Competency Field

Mechanical Miscellaneous

Unit Sector

Technical - Brakes

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Elements and Performance Criteria

Elements Elements describe the essential outcomes.	**Performance Criteria** Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold and italicised text is used, further information is detailed in the range of conditions section.
1. Prepare to inspect and service braking system	1.1 Job requirements are determined from workplace instructions 1.2 Servicing information is sourced and interpreted 1.3 Hazards associated with the work are identified and risks are managed 1.4 Tools, equipment and materials are selected and checked for serviceability
2. Inspect braking system	2.1 Inspection is carried out according to manufacturer specifications, workplace procedures, and ***safety and environmental requirements*** 2.2 Inspection results are compared with manufacturer specifications 2.3 Inspection findings are reported according to workplace procedures, including recommendations for necessary repairs or adjustments
3. Service braking system	3.1 Service and adjustments are carried out according to manufacturer specifications, workplace procedures, and safety and environmental requirements, and without causing damage to components or systems 3.2 ***Post-service testing*** is carried out according to workplace procedures
4. Complete work processes	4.1 Final inspection is made to ensure work is to workplace expectations and vehicle is presented ready for use 4.2 Work area is cleaned, waste and non-recyclable materials are disposed of, and recyclable material is collected 4.3 Tools and equipment are checked and stored according to workplace procedures 4.4 Workplace documentation is processed according to workplace procedures

Foundation Skills

This section describes those language, literacy, numeracy and employment skills that are essential to performance and are not explicit in the performance criteria.

Skills	**Description**

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Skills	Description
Learning skills to:	• locate appropriate sources of information efficiently.
Reading skills to:	• interpret information from manufacturer and workshop literature when seeking service procedures and specifications relating to braking systems.
Writing skills to:	• legibly and accurately fill out workplace documentation when reporting inspection findings, making recommendations, and recording parts and material used.
Oral communication skills to:	• clarify instructions • report inspection finding and make repair recommendations.
Numeracy skills to:	• measure brake components and use basic mathematical operations, including addition and subtraction, to calculate distances, tolerances and deviations from manufacturer specifications • interpret measuring equipment scales.
Technology skills to:	• use measuring equipment, such as vernier calipers.

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.

Safety and environmental requirements must include:	• work health and safety (WHS) and occupational health and safety (OHS) requirements, including procedures for:
	  • lifting and supporting vehicles or machinery
	  • managing and controlling brake dust and brake fluids
	• environmental requirements, including procedures for trapping, storing and disposing of brake dust and brake fluid released from braking systems.

Post-service testing must include**:**	• static and dynamic testing of braking system.

Unit Mapping Information

Equivalent to AURTTB2001 Inspect and service braking systems

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Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=b4278d82-d487-4070-a8c4-78045ec695b1

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Assessment Requirements for AURTTB001 Inspect and service braking systems

Modification History

Release	Comment
Release 1	New unit of competency.

Performance Evidence

Before competency can be determined, individuals must demonstrate they can perform the following according to the standards defined in this unit's elements, performance criteria, range of conditions and foundation skills:

- inspect and service the braking systems of two different vehicles or machinery, including:
  - disc braking systems
  - drum braking systems.

Knowledge Evidence

Individuals must be able to demonstrate knowledge of:

- work health and safety (WHS) and occupational health and safety (OHS) requirements relating to inspecting and servicing braking systems, including procedures for:
  - lifting and supporting vehicles or machinery
  - managing and controlling brake dust and brake fluids
- environmental requirements, including procedures for trapping, storing and disposing of brake dust and brake fluid released from braking systems
- identification and function of major braking components, including:
  - discs, pads and calipers
  - drums, brake linings, wheel cylinders and hydraulic components
  - master cylinder
  - hydraulic and vacuum brake booster
  - diesel engine vacuum brake booster pump
  - electric and manual park braking systems
- basic operation of braking systems, including:
  - hydraulic braking systems

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  - mechanical braking systems
  - air over hydraulic systems
  - air braking systems
- types, applications and testing of brake hydraulic fluids
- inspection procedures for braking system components, including:
  - component wear analysis
  - brake fluid testing
- service and adjustment procedures for braking systems, including:
  - brake bleeding
  - brake adjustment
  - park brake adjustment
- post-service testing procedures for braking systems, including static and dynamic testing.

Assessment Conditions

Assessors must satisfy NVR/AQTF assessor requirements.

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

Assessment must include direct observation of tasks.

Where assessment of competency includes third-party evidence, individuals must provide evidence that links them to the braking systems that they have worked on, e.g. repair orders.

Assessors must verify performance evidence through questioning on skills and knowledge to ensure correct interpretation and application.

The following resources must be made available:

- automotive repair workplace or simulated workplace
- workplace instructions
- manufacturer braking system specifications
- two different vehicles or machinery with disc and drum braking systems requiring servicing
- tools, equipment and materials appropriate for inspecting and servicing braking systems.

Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=b4278d82-d487-4070-a8c4-78045ec695b1

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AURTTD004 Inspect and service suspension systems

Modification History

Release	Comment
Release 1	New unit of competency.

Application

This unit describes the performance outcomes required to inspect and service front and rear suspension systems. It involves preparing for the task, inspecting the front and rear suspension system for wear, oil or air leaks and physical damage, reporting the inspection findings, servicing and adjusting the system, and completing workplace processes and documentation.

It applies to those working in the automotive service and repair industry. The suspension systems include those of agricultural machinery, heavy commercial vehicles, light vehicles, mobile plant machinery, motorcycles, outdoor power equipment or trailers.

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

Competency Field

Mechanical Miscellaneous

Unit Sector

Technical - Steering and Suspension

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 and italicised text is used, further information is detailed in the range of conditions section.

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Elements Elements describe the essential outcomes.	**Performance Criteria** Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold and italicised text is used, further information is detailed in the range of conditions section.
1. Prepare to inspect and service suspension system	1.1 Job requirements are determined from workplace instructions 1.2 Servicing information is sourced and interpreted 1.3 Hazards associated with the work are identified and risks are managed 1.4 Tools, equipment and materials are selected and checked for serviceability
2. Inspect suspension system	2.1 Inspection is carried out according to manufacturer specifications, workplace procedures and ***safety requirements*** 2.2 Inspection results are compared with manufacturer specifications 2.3 Inspection findings are reported according to workplace procedures, including recommendations for necessary repairs or adjustments
3. Service suspension system	3.1 Service and adjustments are carried out according to manufacturer specifications, workplace procedures, and safety and ***environmental requirements***, and without causing damage to components or systems 3.2 Post-service testing is carried out according to workplace procedures
4. Complete work processes	4.1 Final inspection is made to ensure work is to workplace expectations and vehicle is presented ready for use 4.2 Work area is cleaned, waste and non-recyclable materials are disposed of, and recyclable material is collected 4.3 Tools and equipment are checked and stored according to workplace procedures 4.4 Workplace documentation is processed according to workplace procedures

Foundation Skills

This section describes those language, literacy, numeracy and employment skills that are essential to performance and are not explicit in the performance criteria.

Skills	**Description**
Learning skills to:	• locate appropriate sources of information efficiently.

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Skills	Description
Reading skills to:	• interpret information from manufacturer and workshop literature when seeking service procedures and specifications relating to suspension systems.
Writing skills to:	• legibly and accurately fill out workplace documentation when reporting inspection findings, making recommendations, and recording parts and material used.
Oral communication skills to:	• clarify instructions • report inspection findings and make repair recommendations.
Numeracy skills to:	• use basic mathematical operations, including addition and subtraction, to compare component wear to distances, tolerances and deviations in manufacturer specifications.

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.

Safety requirements must include:	• work health and safety (WHS) and occupational health and safety (OHS) requirements, including procedures for:
	  • working with stored energy
	  • isolating and stabilising vehicles and machinery.

Environmental requirements must include**:**	• procedures for trapping, storing and disposing of lubricants and fluids released from suspension systems.

Unit Mapping Information

Equivalent to AURTTD2004 Inspect and service suspension systems

Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=b4278d82-d487-4070-a8c4-78045ec695b1

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Assessment Requirements for AURTTD004 Inspect and service suspension systems

Modification History

Release	Comment
Release 1	New unit of competency.

Performance Evidence

Before competency can be determined, individuals must demonstrate they can perform the following according to the standards defined in this unit's elements, performance criteria, range of conditions and foundation skills:

- inspect and service the front and rear suspension systems of two different vehicles or machinery.

Knowledge Evidence

Individuals must be able to demonstrate knowledge of:

- work health and safety (WHS) and occupational health and safety (OHS) requirements relating to inspecting and servicing suspension systems, including procedures for:
  - working with stored energy
  - isolating and stabilising vehicles and machinery
- environmental requirements, including procedures for trapping, storing and disposing of lubricants and fluids released from suspension systems
- identification, function and basic operation of major front and rear suspension components, including:
  - spring types and dampers
  - suspension arms
  - suspension components
- types and applications of lubricants and fluids
- inspection procedures for suspension systems, including:
  - analysing component wear
  - checking fluid and air leaks
  - evaluating physical damage
- service and adjustment procedures for suspension systems, including:

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  - adjusting and replenishing oil and fluid levels as required
  - lubricating components
- post-service testing procedures for suspension systems.

Assessment Conditions

Assessors must satisfy NVR/AQTF assessor requirements.

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

Assessment must include direct observation of tasks.

Where assessment of competency includes third-party evidence, individuals must provide evidence that links them to the suspension systems that they have worked on, e.g. repair orders.

Assessors must verify performance evidence through questioning on skills and knowledge to ensure correct interpretation and application.

The following resources must be made available:

- automotive repair workplace or simulated workplace
- workplace instructions
- manufacturer suspension system specifications
- two different vehicles or machinery with suspension systems requiring servicing
- tools, equipment and materials appropriate for inspecting and servicing suspension systems.

Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=b4278d82-d487-4070-a8c4-78045ec695b1

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=b4278d82-d487-4070-a8c4-78045ec695b1

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AURTTJ012 Remove, inspect and refit wheel hubs and associated brake components

Modification History

Release	Comment
Release 1	New unit of competency.

Application

This unit describes the skills and knowledge required to remove, inspect and refit wheel hubs and associated brake components during the rectification of faults in steering and suspension systems. It involves identifying and confirming work requirements, preparing for the task, removing and refitting the wheel hubs and associated brake components, and completing workplace processes and documentation.

This unit applies to those working within the automotive service and repair industry. The hubs and associated brake components include those of light vehicles, four wheel drive vehicles or light commercial vehicles. This unit does not involve servicing or repairing braking systems.

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

Unit Sector

Technical – Wheels and Tyres

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. Prepare to remove and refit wheel hubs and associated brake components	1.1 Identify job requirements from workplace instructions 1.2 Obtain and interpret wheel hub and braking component removal, refitting and adjustment information 1.3 Identify hazards and environmental issues, assess potential risks and implement control measures in line with workplace policies

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	1.4 Identify tools, equipment and materials required for the job and examine for serviceability
2. Remove and inspect wheel hubs and associated brake components	2.1 Identify components to be removed and remove according to manufacturer specifications, workplace procedures, workplace health and safety and environmental requirements, and without causing damage to components or systems 2.2 Inspect components according to manufacturer specifications and workplace procedures 2.3 Report inspection findings and make recommendations for necessary repairs or replacements and adjustments according to workplace procedures
3. Refit and adjust wheel hubs and associated brake components	3.1 Obtain and interpret refitting information in order to identify refitting options required for the job 3.2 Fit and adjust wheel hubs and associated brake components according to manufacturer specifications, workplace procedures, workplace health and safety and environmental requirements 3.3 Tighten wheel hub adjustment and wheel nuts according to manufacturer specifications and workplace procedures
4. Complete work processes	4.1 Carry out final inspection to ensure correct assembly and operation, and ensure work meets workplace expectations and vehicle is ready for use 4.2 Clean work area and dispose of or recycle materials according to workplace procedures 4.3 Examine tools and equipment and store according to workplace procedures 4.4 Complete workplace documentation according to workplace procedures

Foundation Skills

This section describes those language, literacy, numeracy and employment skills that are essential to performance and are not explicit in the performance criteria.

Skills	Description
Learning skills to:	• locate relevant sources of wheel hub and braking components information efficiently
Reading skills to:	• read and interpret information from manufacturer specifications, workplace procedures and documentation when seeking removal, refitting and adjustment procedures and specifications
Writing skills to:	• legibly and accurately fill out workplace documentation when reporting inspection findings, making repair recommendations,

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	and recording parts and material used
Oral communication skills to	• clarify instructions • make repair recommendations
Numeracy skills to:	• interpret precision measuring tool scales • understand numerical divisions in metric and imperial units of measurement for tensioning fasteners
Technology skills to:	• use precision measuring equipment • operate fastener tensioning tools

Unit Mapping Information

Code and title current version	Code and title previous version	Comments	Equivalence status
AURTTJ012 Remove, inspect and refit wheel hubs and associated brake components (Release 1)	AURTTJ002 Remove, inspect and refit wheel hubs and associated brake components (Release 1)	Wording changes to ensure compliance with Standards for Training Packages. Removal of reference to OHS requirements. Removal of range of conditions. Changed from ‘repair’ to ‘refit’ in performance criteria. Addition of oral communication skills. Addition of assessor requirements.	Equivalent

Links

Companion Volume Implementation Guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=b4278d82-d487-4070-a8c4-78045ec695b1

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Assessment Requirements for AURTTJ012 Remove, inspect and refit wheel hubs and associated brake components

Modification History

Release	Comment
Release 1	New unit of competency.

Performance Evidence

The candidate must demonstrate the following according to the standards defined in the elements, performance criteria and foundation skills of this unit.

The candidate must demonstrate removing, inspecting, refitting and adjusting the following wheel hubs safely according to workplace procedures to meet required outcomes:

- one disc brake hub and associated brake components
- one drum brake hub and associated brake components

Knowledge Evidence

The candidate must demonstrate the following knowledge:

Key policies and procedures relating to the removal, inspection and refitting of wheel hubs and brake components, including:

- how to locate and interpret manufacturer specifications or equivalent documentation, manufacturer procedures and workplace procedures for removing, inspecting and refitting wheel hubs and associated brake components
- the following workplace health and safety requirements relating to removing, inspecting and refitting wheel hubs and associated brake components, including procedures for:
  - lifting and supporting vehicles and wheel hubs
  - handling and controlling brake dust and brake fluids
- the following environmental requirements and procedures:
  - trapping, storing and disposing of brake dust and brake fluid
- procedures for removing, inspecting, refitting and adjusting wheel hubs and associated brake components, including:
  - brake bleeding
  - brake and park brake adjustment
  - wheel bearing lubrication and adjustment
- post-fitting procedures and checks of wheel hubs and associated brake components
- workplace housekeeping and documentation procedures

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Wheel hubs and associated brake components technical information, including:

- the purpose of:
  - discs, pads and brake calipers
  - drums, brake linings, wheel cylinders and hydraulic components
  - park braking devices
  - wheel bearing types
- the basic operation of the following braking systems:
  - hydraulic braking systems
  - mechanical braking systems
- the types and uses of brake hydraulic fluids and wheel bearing greases
-

Assessment Conditions

The assessment must:

- include access to:
  - an automotive repair workplace or simulated workplace that reflects workplace conditions - where simulation is used, it must reflect real working conditions by modelling industry operating conditions and contingencies, as well as, using suitable facilities, equipment and resources
  - repair orders and workplace instructions relating to remove, inspect and refit activity
  - workplace procedures relating to remove, inspect and refit activity
  - manufacturer specifications or equivalent documentation for wheel hubs and associated brake component
  - vehicle for removing and refitting the wheel hubs and associated brake components specified in the performance evidence
  - tools, equipment and materials appropriate for removing, inspecting and refitting wheel hubs and associated brake components
- be demonstrated in the workplace or in a simulated environment that reflects workplace conditions
- be conducted in a safe environment
- be assessed in compliance with relevant policies, procedures, processes and operational manuals directly related to the industry sector for which it is being assessed
- confirm consistent performance can be applied in a range of relevant workplace circumstances

Assessor Requirements

Assessors of this unit must:

- satisfy the assessor requirements in applicable vocational education and training legislation, frameworks and/or standards

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Links

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AURTTY001 Repair vehicle chassis, frame and associated components

Modification History

Release	Comment
Release 1	New unit of competency.

Application

This unit describes the performance outcomes required to inspect, repair and align chassis, frame and components to vehicles. It involves preparing for the task, selecting and using specialist tools and equipment, identifying damage, taking pre-repair measurements, conducting repairs, taking post-repair measurements according to original equipment manufacturer (OEM) or authorised agency specifications, and completing workplace processes and documentation.

It applies to those working in the automotive body repair industry.

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

Competency Field

Mechanical Miscellaneous

Unit Sector

Technical - Chassis and Frame

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Elements and Performance Criteria

Elements Elements describe the essential outcomes.	**Performance Criteria** Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold and italicised text is used, further information is detailed in the range of conditions section.
1. Prepare to repair vehicle chassis, frame and associated components	1.1 Job requirements are determined from workplace instructions 1.2 Type of damage is identified, and inspection report is completed and documented according to workplace procedures 1.3 Repair specifications from OEM or authorised agency are sourced and interpreted 1.4 Hazards associated with the work are identified and risks are managed 1.5 ***Repair tools and equipment*** and personal protective equipment (PPE) are selected and checked for serviceability 1.6 Work is planned to identify repair methods, minimise waste and use time efficiently
2. Carry out repairs	2.1 Repair or replacement and alignment activities are carried out according to OEM or authorised agency repair specifications, workplace procedures, and ***safety and environmental requirements***, within industry time lines, and without causing damage to other vehicle components or systems 2.2 Measuring equipment is used to take accurate measurements and to align the chassis, frame and components
3. Complete work processes	3.1 Final inspection is made to ensure work meets workplace expectations and vehicle is presented ready for use 3.2 Work area is cleaned, waste and non-recyclable materials are disposed of, and recyclable material is collected and stored 3.3 Tools and equipment are checked, reported if faulty, and stored according to workplace procedures 3.4 Workplace documentation is processed according to workplace procedures

Foundation Skills

This section describes those language, literacy, numeracy and employment skills that are essential to performance and are not explicit in the performance criteria.

Skills	**Description**

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Skills	Description
Learning skills to:	• locate appropriate sources of information efficiently.
Writing skills to:	• legibly and accurately fill out workplace documentation.
Oral communications skills to:	• ask questions to clarify instructions and procedures • clearly report issues or outcomes relating to repair.
Numeracy skills to:	• use basic mathematical operations, including addition and subtraction, to calculate tolerances from manufacturer specifications • interpret repair and alignment measurements.
Planning and organising skills to:	• plan own work requirements and prioritise actions to achieve required outcomes and ensure tasks are completed within workplace timeframes.
Technology skills to:	• correctly and safely use specialist repair equipment and tools.

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.

Repair tools and equipment must include:	• hydraulic repair equipment • measuring and alignment equipment.

Safety and environmental requirements must include:	• work health and safety (WHS) and occupational health and safety (OHS) requirements, including procedures for:
	  • selecting and using PPE
	  • using specialist tools and equipment
	  • identifying workplace hazards
	• environmental requirements, including procedures for trapping, storing and disposing of waste materials.

Unit Mapping Information

Equivalent to AURTTY3001 Repair chassis, frame and associated components

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Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=b4278d82-d487-4070-a8c4-78045ec695b1

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Assessment Requirements for AURTTY001 Repair vehicle chassis, frame and associated components

Modification History

Release	Comment
Release 1	New unit of competency.

Performance Evidence

Before competency can be determined, individuals must demonstrate they can perform the following according to the standard defined in this unit's elements, performance criteria, range of conditions and foundation skills:

- repair one chassis and its frame and components, in which the work must involve two of the following types of damage:
  - diamond and twist damage
  - kick-up and kick-down
  - sag
  - mash and sway.

Knowledge Evidence

Individuals must be able to demonstrate knowledge of:

- work health and safety (WHS) and occupational health and safety (OHS) requirements relating to repairing vehicle chassis, frame and associated components, including procedures for:
  - selecting and using personal protective equipment (PPE)
  - using specialist tools and equipment
  - identifying workplace hazards
- environmental requirements, including procedures for trapping, storing and disposing of waste materials
- steps in repair inspection process
- original equipment manufacturer (OEM) or authorised agency specifications and recommended repair procedures
- features of different types of chassis damage, including:
  - diamond and twist damage

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  - kick-up and kick-down
  - sag
  - mash and sway
- procedures for determining chassis reparability
- vehicle design characteristics, including:
  - mono unitised
  - alloy and high strength steel (HSS) chassis
- chassis repair, replacement and alignment techniques
- key characteristics of welding types and techniques
- limitations on drilling and welding to chassis
- type and use of chassis repair tools and equipment, including:
  - application of heat colours, heat crayons and thermal temp gun
  - hydraulic repair equipment
  - equipment maintenance procedures
- measuring and alignment procedures
- type and use of measuring equipment, including:
  - gun sight gauges
  - drop lining
  - trammel gauges
  - tape measures
- final inspection procedures
- work area clean-up and maintenance requirements
- procedures for completing workplace documentation.

Assessment Conditions

Assessors must satisfy NVR/AQTF assessor requirements.

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

Assessment must include direct observation of tasks.

Where assessment of competency includes third-party evidence, individuals must provide evidence that links them to the vehicle chassis, frames and components that they have repaired, e.g. repair orders.

Assessors must verify performance evidence through questioning on skills and knowledge to ensure correct interpretation and application.

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The following resources must be made available:

- automotive workplace or simulated workplace
- workplace instructions
- OEM specifications and repair instructions
- PPE required to repair chassis, frame and components
- one chassis requiring repair, and its frame and associated components
- measuring and alignment equipment
- tools and equipment appropriate for repairing vehicle chassis, frame and components.

Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=b4278d82-d487-4070-a8c4-78045ec695b1

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=b4278d82-d487-4070-a8c4-78045ec695b1

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AURVTG011 Install side vehicle windows

Modification History

Release	Comment
Release 1	New unit of competency.

Application

This unit describes the performance outcomes required to fabricate templates for vehicle side windows, mark and cut panels, prepare cut edges, cut glass or perspex, and install the side windows. It involves preparing for the task, selecting and using specialist tools and equipment, selecting materials, checking material quality, sealing and installing side windows according to manufacturer specifications, cleaning and finishing the windows, and completing workplace processes and documentation.

It applies to those working in the automotive glazing service and repair industry.

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

Competency Field

Vehicle Body

Unit Sector

Technical - Glazing

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 and italicised text is used, further information is detailed in the range of conditions section.

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Elements Elements describe the essential outcomes.	**Performance Criteria** Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold and italicised text is used, further information is detailed in the range of conditions section.
1. Prepare to install side window	1.1 Job requirements are determined from workplace instructions 1.2 Information is accessed and interpreted from manufacturer specifications, workplace procedures, and sealant safety data sheets (SDS) 1.3 Work is planned to minimise waste and use time efficiently 1.4 Vehicle is inspected to ensure there is no prior damage and that all related accessories are operating correctly 1.5 ***Materials*** required to install side window are selected and checked for quality 1.6 Hazards associated with the work are identified and risks are managed 1.7 ***Tools and equipment*** for making opening and installing side window are selected and checked for serviceability 1.8 Vehicle is protected and safely located according to workplace procedures
2. Fabricate templates	2.1 Accurate measurements of shape and size of side window are taken in order to prepare templates 2.2 Suitable materials and equipment are used to fabricate templates 2.3 Templates are completed according to workplace procedures and without causing damage to vehicle or components
3. Mark out and cut panel for side window	3.1 Template is used to mark out areas on vehicle to be cut 3.2 Window opening is cut in panel using approved methods and equipment according to workplace procedures and ***safety and environmental requirements*** 3.3 Panel edges and trim are prepared for installation of side window 3.4 Panels and trim are reinforced as required to comply with vehicle manufacturer specifications and without causing damage to vehicle or components
4. Install side window	4.1 Material to be installed in vehicle side opening is selected and prepared 4.2 Side window is installed to manufacturer specifications using either rubber or direct glazing according to safety and environmental requirements 4.3 Window in panel opening is secured using approved materials
5. Complete work processes	5.1 Final inspection is made to ensure work meets workplace expectations, related accessories are operating correctly, customer is informed of time to wait before driving vehicle, and

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Elements Elements describe the essential outcomes.	**Performance Criteria** Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold and italicised text is used, further information is detailed in the range of conditions section.
	vehicle is presented ready for use 5.2 Work area is cleaned, waste and non-recyclable materials are disposed of, and recyclable material is collected and stored 5.3 Tools and equipment are checked, reported if faulty, and stored according to workplace procedures 5.4 Workplace documentation is processed according to workplace procedures

Foundation Skills

This section describes those language, literacy, numeracy and employment skills that are essential to performance and are not explicit in the performance criteria.

Skills	**Description**
Learning skills to:	• locate appropriate sources of information efficiently.
Writing skills to:	• legibly and accurately fill out workplace documentation.
Oral communication skills to:	• clarify instructions and procedures • clearly report issues or outcomes.

Numeracy skills to:	• use basic mathematical operations, including addition and subtraction, to:
	  • calculate template and panel measurements
	  • cut opening.

Planning and organising skills to:	• plan own work requirements and prioritise actions to achieve required outcomes and ensure tasks are completed within workplace timeframes.
Problem solving skills to:	• identify quality issues, reinforcement requirements and potential problems associated with cutting opening and installing side windows.
Technology skills to:	• use specialist tools and measuring equipment.

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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.

Materials must include**:**	• side window • panel material • template materials • trim • sealants and adhesives • cleaning agents.
Tools and equipment must include:	• personal protective equipment (PPE) • hand and power tools • measuring equipment • metal cutting equipment • vehicle protection equipment • templates.

Safety and environmental requirements must include**:**	• work health and safety (WHS) and occupational health and safety (OHS) requirements, including procedures for:
	  • selecting and using PPE
	  • using tools and lifting equipment
	  • using SDS for sealants
	  • material handling and storage
	• environmental requirements, including procedures for trapping, storing and disposing of waste materials and chemicals.

Unit Mapping Information

Equivalent to AURVTG3011 Install side windows

Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=b4278d82-d487-4070-a8c4-78045ec695b1

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Assessment Requirements for AURVTG011 Install side vehicle windows

Modification History

Release	Comment
Release 1	New unit of competency.

Performance Evidence

Before competency can be determined, individuals must demonstrate they can perform the following according to the standard defined in this unit's elements, performance criteria, range of conditions and foundation skills:

- install side windows in two different vehicles.

Knowledge Evidence

Individuals must be able to demonstrate knowledge of:

- work health and safety (WHS) and occupational health and safety (OHS) requirements relating to installing side vehicle windows, including procedures for:
  - selecting and using personal protective equipment (PPE)
  - using tools and lifting equipment
  - using safety data sheets (SDS) for sealants
  - material handling and storage
- environmental requirements, including procedures for trapping, storing and disposing of waste materials and chemicals
- location and content of side window manufacturer technical information and specifications
- side window installation methods and techniques, including:
  - template production
  - template materials
  - measuring and marking out procedures
  - procedures for cutting windows and panels
  - side window installation procedures
  - type and use of specialist tools and equipment
  - glass and material handling techniques

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  - type of adhesives and sealants and their application
  - potential problems and consequences
  - cleaning materials and techniques
- procedures for protecting vehicle and components when installing side vehicle windows
- procedures for final inspection of fitted side windows.

Assessment Conditions

Assessors must satisfy NVR/AQTF assessor requirements.

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

Assessment must include direct observation of task.

Where assessment of competency includes third-party evidence, individuals must provide evidence that links them to the vehicle side windows they have installed, e.g. work orders.

Assessors must verify performance evidence through questioning on skills and knowledge to ensure correct interpretation and application.

The following resources must be made available:

- automotive glazing workplace, off-site workplace location or simulated workplace
- workplace instructions
- PPE to be used when installing side windows
- SDS for sealants
- template materials
- metal cutting equipment, and hand and power tools to cut and install side windows
- two different vehicles requiring the installation of a side window
- side windows
- vehicle protection covers
- cleaning agents
- tools, equipment and materials appropriate for installing vehicle side windows.

Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=b4278d82-d487-4070-a8c4-78045ec695b1

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=b4278d82-d487-4070-a8c4-78045ec695b1

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AURVTN032 Inspect vehicle damage and determine repair procedures

Modification History

Release	Comment
Release 1	New unit of competency.

Application

This unit describes the performance outcomes required to inspect a vehicle for damage and determine suitable repair procedure. It involves preparing for the task, selecting and using measuring equipment, inspecting damage, determining repair requirements, and completing workplace processes and documentation.

It applies to those working in the automotive body repair industry.

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

Competency Field

Vehicle Body

Unit Sector

Technical - Body

Elements and Performance Criteria

Elements Elements describe the essential outcomes.	**Performance Criteria** Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold and italicised text is used, further information is detailed in the range of conditions section.
1. Prepare to inspect	1.1 Job requirements are determined from workplace instructions

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Elements Elements describe the essential outcomes.	**Performance Criteria** Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold and italicised text is used, further information is detailed in the range of conditions section.
vehicle damage	1.2 Vehicle specifications and repair procedures from original equipment manufacturer (OEM) or authorised agency are accessed and interpreted 1.3 Hazards associated with the work are identified and risks are managed 1.4 Vehicle to be inspected is located, checked and confirmed against vehicle information in workplace instructions 1.5 ***Inspection methods*** are analysed, and most appropriate option for vehicle and job requirement is selected 1.6 Materials and equipment required to conduct inspection are sourced and prepared
2. Inspect vehicle damage	2.1 Vehicle is inspected to determine location and extent of direct and indirect damage according to OEM or authorised agency's recommended procedures, workplace procedures and ***safety requirements*** 2.2 Accurate measurements are taken and inspection findings are recorded, including photographs where appropriate, according to workplace procedures 2.3 Vehicle inspection is completed without causing damage to vehicle or components
3. Complete repair report	3.1 Vehicle inspection report and repair plan are prepared and given to appropriate personnel according to workplace procedures 3.2 Direct and indirect damage to vehicle is clearly identified in ***report***, based on workplace and OEM or authorised agency's recommended repair procedures 3.3 Report is checked for accuracy and completeness and finalised for submission to insurance company and/or customer according to workplace procedures 3.4 Responses to queries about the damage inspection and repair report are provided when requested

Foundation Skills

This section describes those language, literacy, numeracy and employment skills that are essential to performance and are not explicit in the performance criteria.

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Skills	Description
Learning skills to:	• locate specifications and relevant information efficiently.
Writing skills to:	• legibly and accurately fill out workplace documentation and rectification reports outlining repair recommendations, and parts and material required.
Oral communication skills to:	• clarify instructions and procedures • convey inspection findings and repair recommendations.
Numeracy skills to:	• interpret and calculate OEM or authorised agency repair and vehicle specifications correctly using metric and imperial systems of measurement • compare measurements and identify non-conformance measurements • use basic mathematical operations, including addition, subtraction, multiplication and division to calculate material for repairs in damage inspection report • calculate recommended remove and replacement times in damage inspection report.
Planning and organising skills to:	• plan own work requirements and prioritise actions to achieve required outcomes and ensure tasks are completed within workplace timeframes.
Problem solving skills to:	• assess implications of damage to vehicle.
Technology skills to:	• use digital camera to complete reporting tasks.

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.

Inspection methods must include:	• visual checking • physical checking: • taking measurements • partial dismantling • referencing OEM or authorised agency's specifications.
Safety requirements must include**:**	• work health and safety (WHS) and occupational health and safety (OHS) requirements, including procedures for: • selecting and using personal protective equipment (PPE)

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	• using measuring equipment.
Report must include:	• material list • estimation of time required to complete repairs.

Unit Mapping Information

Equivalent to AURVTN4032 Determine vehicle damage and recommended repair procedures

Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=b4278d82-d487-4070-a8c4-78045ec695b1

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Assessment Requirements for AURVTN032 Inspect vehicle damage and determine repair procedures

Modification History

Release	Comment
Release 1	New unit of competency.

Performance Evidence

Before competency can be determined, individuals must demonstrate they can perform the following according to the standard defined in this unit's elements, performance criteria, range of conditions and foundation skills:

- inspect three different damaged vehicles and legibly prepare damage inspection reports and recommended repair plans for each.

Knowledge Evidence

Individuals must be able to demonstrate knowledge of:

- work health and safety (WHS) and occupational health and safety (OHS) requirements relating to inspecting vehicle damage and determining repair procedures, including procedures for:
  - selecting and using personal protective equipment (PPE)
  - using measuring equipment
- original equipment manufacturer (OEM) or authorised agency's vehicle specifications and repair procedures
- types and application of vehicle inspection methods, including:
  - visual checking
  - physical checking, including:
    - taking measurements
    - partial dismantling
  - referencing OEM or authorised agency's specifications
- procedures to determine indirect damage
- reporting requirements.

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Assessment Conditions

Assessors must satisfy NVR/AQTF assessor requirements.

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

Assessment must include direct observation of tasks.

Where assessment of competency includes third-party evidence, individuals must provide evidence that links them to the damaged vehicles that they have inspected, e.g. work orders.

Assessors must verify performance evidence through questioning on skills and knowledge to ensure correct interpretation and application.

The following resources must be made available:

- automotive workplace or simulated workplace
- workplace instructions
- OEM or authorised agency's vehicle specifications and repair procedures
- three different damaged vehicles requiring inspection
- tools, equipment and materials appropriate for inspecting vehicle damage and determining repair procedures.

Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=b4278d82-d487-4070-a8c4-78045ec695b1

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AURVTS004 Repair vehicle composite material components

Modification History

Release	Comment
Release 1	New unit of competency.

Application

This unit describes the performance outcomes required to repair components on vehicle bodies using composite materials. It involves preparing for the task, selecting and using specialist tools and equipment, identifying suitable composite materials, calculating material quantities, mixing and applying recommended composite materials to repair components according to workplace and customer specifications, and completing workplace processes and documentation.

It applies to those working in the automotive service and body repair industry.

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

Competency Field

Vehicle Body

Unit Sector

Technical – Fabrication

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 and italicised text is used, further information is detailed in the range of conditions section.

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Elements Elements describe the essential outcomes.	**Performance Criteria** Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold and italicised text is used, further information is detailed in the range of conditions section.
1. Prepare to repair vehicle composite material component	1.1 Workplace instructions are used to determine job requirements 1.2 Fibreglass and composite material repair information is accessed and interpreted from workplace procedures and manufacturer specifications 1.3 ***Composite materials*** are identified, selected and inspected for quality 1.4 Hazards associated with the work are identified and risks are managed 1.5 Work area with approved ventilation is checked for correct operation and faults are reported to authorised personnel 1.6 ***Composite tools and equipment*** and personal protective equipment (PPE) are identified and checked for serviceability 1.7 Work area is prepared and work is planned to identify methods for repairing a vehicle using composite materials and to minimise waste
2. Carry out repair activities	2.1 Items to be repaired are located and damage or faults are assessed to determine repair methods 2.2 Tools and equipment are set up and materials are mixed and prepared for use 2.3 Repairs to composite material components are carried out according to workplace procedures and ***safety and environmental requirements*** 2.4 Reinforcement techniques are applied to reinstate pre-damage strength to composite materials 2.5 Finishing techniques are applied to present composite surfaces to manufacturer and workplace quality standards 2.6 Repairs to composite material components are completed without causing damage to equipment and components
3. Complete work processes	3.1 Final inspection is made to ensure work meets workplace and customer specifications, and components are presented ready for use 3.2 Work area is cleaned, waste and non-recyclable materials are disposed of, and recyclable material is collected and stored 3.3 Tools and equipment are checked, reported if faulty, and stored according to workplace procedures 3.4 Workplace documentation is processed according to workplace procedures

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Foundation Skills

This section describes those language, literacy, numeracy and employment skills that are essential to performance and are not explicit in the performance criteria.

Skills	**Description**
Learning skills to:	• locate specifications and relevant information efficiently.
Writing skills to:	• legibly and accurately fill out workplace documentation.
Oral communication skills to:	• clarify instructions and procedures • clearly report quality issues and job outcomes.

Numeracy skills to:	• use basic mathematical operations, including addition, subtraction, multiplication and division to:
	  • calculate component surface area
	  • calculate quantities of composite and fibreglass materials
	  • determine ratios and mixing percentages.

Planning and organising skills to:	• plan own work requirements and prioritise actions to achieve required outcomes and ensure tasks are completed within workplace timeframes.
Technology skills to:	• use specialist composite material tools and equipment.

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.

Composite materials must include:	• composite materials, including:
	  • fibreglass matting
	  • gel coats
	  • release agents
	  • resins
	  • catalysts
	• cleaning materials.

Composite tools and	• composite material measuring equipment

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equipment must include:	• specialist hand tools.

Safety and environmental requirements must include:	• work health and safety (WHS), and occupational health and safety (OHS) requirements, including procedures for:
	  • selecting and using personal protective equipment (PPE)
	  • using tools and equipment
	  • satisfying ventilation requirements for work area
	  • using safety data sheets (SDS) for composite materials
	  • handling and storing hazardous resins and chemicals
	• environmental requirements, including procedures for trapping, storing and disposing of resins, chemicals and waste materials produced during fabrication process.

Unit Mapping Information

Equivalent to AURVTS3004 Repair fibreglass and composite material components

Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=b4278d82-d487-4070-a8c4-78045ec695b1

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Assessment Requirements for AURVTS004 Repair vehicle composite material components

Modification History

Release	Comment
Release 1	New unit of competency.

Performance Evidence

Before competency can be determined, individuals must demonstrate they can perform the following according to the standard defined in this unit's elements, performance criteria, range of conditions and foundation skills:

- repair composite components of two different vehicles, including a repair to:
  - 50 mm diameter hole
  - 100 mm split.

Knowledge Evidence

Individuals must be able to demonstrate knowledge of:

- work health and safety (WHS), and occupational health and safety (OHS) requirements relating to repairing vehicle composite material components, including procedures for:
  - selecting and using personal protective equipment (PPE)
  - using tools and equipment
  - satisfying ventilation requirements for work area
  - using safety data sheets (SDS) for composite materials
  - handling and storing hazardous resins and chemicals
- environmental requirements, including procedures for trapping, storing and disposing of resins, chemicals and waste materials produced during fabrication process
- fibreglass and composite material repair procedures and techniques, including:
  - types and application of specialist composite tools and equipment
  - types and features of fibreglass and composite materials
  - use of composite moulds required for support backing during repair
  - measuring and calculation techniques
  - surface preparation for composite repairs

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  - mixing and applying composite materials according to manufacturer specifications
  - finishing techniques for composite surfaces
  - reinforcement methods to reinstate pre-damage strength
  - composite repair problems and resolution techniques
- procedures for final inspection of repaired composite component.

Assessment Conditions

Assessors must satisfy NVR/AQTF assessor requirements.

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

Assessment must include direct observation of tasks.

Where assessment of competency includes third-party evidence, individuals must provide evidence that links them to the vehicle components made of composite materials that they have repaired, e.g. repair orders.

Assessors must verify performance evidence through questioning on skills and knowledge to ensure correct interpretation and application.

The following resources must be made available:

- automotive repair workplace or simulated workplace
- workplace instructions
- PPE required to repair composite components
- SDS for composite materials
- composite materials
- two different vehicles requiring the composite component repairs specified in the performance evidence
- tools, equipment and materials appropriate for repairing vehicle composite material components.

Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=b4278d82-d487-4070-a8c4-78045ec695b1

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=b4278d82-d487-4070-a8c4-78045ec695b1

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AURVTT015 Fabricate and install canvas products for automotive and marine components

Modification History

Release	Comment
Release 1	New unit of competency.

Application

This unit describes the performance outcomes required to fabricate and install canvas covers and products in automotive and marine components. It involves preparing for the task, selecting and using specialist tools and equipment, selecting materials and checking their quality, measuring and cutting canvas products, and completing workplace processes and documentation.

It applies to those working in the automotive and marine trimming industry.

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

Competency Field

Vehicle body

Unit Sector

Technical - Trimming and Upholstery

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 and italicised text is used, further information is detailed in the range of conditions section.

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Elements Elements describe the essential outcomes.	**Performance Criteria** Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold and italicised text is used, further information is detailed in the range of conditions section.
1. Prepare to fabricate canvas products	1.1 Job requirements are determined from workplace instructions 1.2 Canvas materials are selected and inspected for quality and quantities are calculated 1.3 Hazards associated with the work are identified and risks are managed 1.4 Tools and equipment, including personal protective equipment (PPE), are selected for appropriate ***fabrication methods*** and checked for serviceability 1.5 Work area is prepared and work is planned to minimise waste and use time efficiently
2. Cut, fabricate and install canvas covers and products	2.1 Materials are measured, marked out and cut according to job requirements and workplace instructions 2.2 Canvas products are fabricated using canvas sewing techniques and according to job requirements, workplace procedures, and ***safety and environmental requirements*** 2.3 Canvas products are assembled according to workplace procedures and safety and environmental requirements 2.4 Installation methods for canvas products are identified and applied according to work instructions
3. Complete work processes	3.1 Final inspection is made to ensure work meets workplace expectations and component is presented ready for use 3.2 Work area is cleaned, waste and non-recyclable materials are disposed of, and recyclable material is collected and stored 3.3 Tools and equipment are checked, reported if faulty, and stored according to workplace procedures 3.4 Workplace documentation is processed according to workplace procedures

Foundation Skills

This section describes those language, literacy, numeracy and employment skills that are essential to performance and are not explicit in the performance criteria.

Skills	**Description**

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Skills	Description
Learning skills to:	• locate appropriate sources of information efficiently.
Writing skills to:	• legibly and accurately fill out workplace documentation.
Oral communication skills to:	• clarify instructions and procedures • clearly report quality issues and job outcomes.

Numeracy skills to:	• use basic mathematical operations, including addition and subtraction, to calculate:
	  • fitting measurements
	  • quantities of canvas materials
	• use tape measure to take measurements.

Planning and organising skills to:	• plan own work requirements and prioritise actions to achieve required outcomes and ensure tasks are completed within workplace timeframes.
Technology skills to:	• use specialist tools and equipment.

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.

Fabrication methods must include:	• measuring, marking out and cutting canvas material • machine sewing • reinforcing and edge finishing • assembling and installing.

Safety and environmental requirements must include:	• work health and safety (WHS) and occupational health and safety (OHS) requirements, including procedures for:
	  • selecting and using PPE
	  • using specialist tools and equipment
	  • manual handling components
	• environmental requirements, including procedures for storing and disposing of waste materials.

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Unit Mapping Information

Equivalent to AURVTT3015 Fabricate canvas products

Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=b4278d82-d487-4070-a8c4-78045ec695b1

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Assessment Requirements for AURVTT015 Fabricate and install canvas products for automotive and marine components

Modification History

Release	Comment
Release 1	New unit of competency.

Performance Evidence

Before competency can be determined, individuals must demonstrate they can perform the following according to the standard defined in this unit's elements, performance criteria, range of conditions and foundation skills:

- fabricate and install one canvas product for an automotive or marine application.

Knowledge Evidence

Individuals must be able to demonstrate knowledge of:

- work health and safety (WHS) and occupational health and safety (OHS) requirements relating to fabricating and installing canvas products for automotive and marine components, including procedures for:
  - selecting and using personal protective equipment (PPE)
  - using specialist tools and equipment
  - manual handling components
- environmental requirements, including procedures for storing and disposing of waste materials
- types and operation of trimming and fabrication tools and equipment
- designs and styles of different types of canvas products
- types, characteristics and applications of:
  - canvas materials
  - fasteners
- methods and techniques for fabricating and installing canvas products, including:
  - selecting canvas
  - planning
  - measuring
  - marking out

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  - cutting
  - sewing
- procedures for protecting vehicle and components when installing products
- procedures for final inspection of fabricated and installed canvas products.

Assessment Conditions

Assessors must satisfy NVR/AQTF assessor requirements.

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

Assessment must include direct observation of tasks.

Where assessment of competency includes third-party evidence, individuals must provide evidence that links them to the canvas products that they have fabricated and installed, e.g. work orders.

Assessors must verify performance evidence through questioning on skills and knowledge to ensure correct interpretation and application.

The following resources must be made available:

- automotive or marine trimming workplace or simulated workplace
- workplace instructions
- PPE required to fabricate and install canvas products
- materials required to fabricate and install canvas products
- one vehicle or vessel requiring a canvas product to be fabricated and installed
- tools, equipment and materials appropriate for fabricating and installing canvas products.

Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=b4278d82-d487-4070-a8c4-78045ec695b1

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=b4278d82-d487-4070-a8c4-78045ec695b1

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AURVTT019 Fabricate and install automotive and marine frames, canopies and side curtains

Modification History

Release	Comment
Release 1	New unit of competency.

Application

This unit describes the performance outcomes required to measure, mark out and cut, fabricate and install automotive and marine frames, canopies and side curtains to manufacturer specifications and customer instructions. It involves preparing for the task, selecting and using specialist tools and equipment, selecting materials and checking their quality, and completing workplace processes and documentation.

It applies to those working in the automotive and marine trimming industry.

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

Competency Field

Vehicle Body

Unit Sector

Technical - Trimming and Upholstery

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 and italicised text is used, further information is detailed in the range of conditions section.

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Elements Elements describe the essential outcomes.	**Performance Criteria** Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold and italicised text is used, further information is detailed in the range of conditions section.
1. Prepare for fabrication	1.1 Job requirements are determined from workplace instructions 1.2 Frame, components and ***materials*** are selected and inspected for quality 1.3 Hazards associated with the work are identified and risks are managed 1.4 Tools and equipment, including personal protective equipment (PPE), are selected and checked for serviceability 1.5 Work is planned to minimise waste and use time efficiently
2. Undertake fabrication and installation activities	2.1 Material is measured, marked out and cut according to job requirements and workplace instructions 2.2 Specialist tools and equipment are used according to ***safety and environmental requirements*** 2.3 Frame, canopies and side curtains are fabricated and assembled according to job requirements, workplace procedures, and safety and environmental requirements 2.4 Frame, canopies and side curtains are installed and fastened according to workplace procedures and without causing damage to vehicle, vessel or components 2.5 Installation and fastening are checked for correct operational requirements
3. Complete work processes	3.1 Final inspection is made to ensure work meets workplace expectations and vehicle or vessel is presented ready for use 3.2 Work area is cleaned, waste and non-recyclable materials are disposed of, and recyclable material is collected and stored 3.3 Tools and equipment are checked, reported if faulty, and stored according to workplace procedures 3.4 Workplace documentation is processed according to workplace procedures

Foundation Skills

This section describes those language, literacy, numeracy and employment skills that are essential to performance and are not explicit in the performance criteria.

Skills	**Description**

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Skills	Description
Learning skills to:	• locate appropriate sources of information efficiently.
Writing skills to:	• legibly and accurately fill out workplace documentation.
Oral communication skills to:	• clarify instructions and procedures • clearly report quality issues and job outcomes.

Numeracy skills to:	• use basic mathematical operations, including addition and subtraction, to calculate:
	  • quantities of required materials
	  • fitting measurements.

Planning and organising skills to:	• plan own work requirements and prioritise actions to achieve required outcomes and ensure tasks are completed within workplace timeframes.
Technology skills to:	• use specialist tools and equipment.

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.

Materials must include:	• adhesives • polyvinyl chloride (PVC) • canvas • aluminium or stainless steel tubing • fasteners • bindings and zippers.

Safety and environmental requirements must include:	• work health and safety (WHS) and occupational health and safety (OHS) requirements, including procedures for:
	  • selecting and using PPE
	  • using specialist tools and equipment
	  • manual handling components
	• environmental requirements, including procedures for storing and disposing of waste materials.

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Unit Mapping Information

Equivalent to AURVTT3019 Fabricate and install canopies and curtains

Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=b4278d82-d487-4070-a8c4-78045ec695b1

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Assessment Requirements for AURVTT019 Fabricate and install automotive and marine frames, canopies and side curtains

Modification History

Release	Comment
Release 1	New unit of competency.

Performance Evidence

Before competency can be determined, individuals must demonstrate they can perform the following according to the standard defined in this unit's elements, performance criteria, range of conditions and foundation skills:

- fabricate one automotive or marine frame, canopy and side curtain to specifications.

Knowledge Evidence

Individuals must be able to demonstrate knowledge of:

- work health and safety (WHS) and occupational health and safety (OHS) requirements relating to fabricating and installing automotive and marine frames, canopies and side curtains, including procedures for:
  - selecting and using personal protective equipment (PPE)
  - using specialist tools and equipment
  - manual handling components
- environmental requirements, including procedures for storing and disposing of waste materials.
- types of frames, canopies and side curtains, including:
  - materials
  - methods of operation
  - component parts
- type, use and basic maintenance of sewing tools and equipment
- types of materials and consumables and their applications, including:
  - fabrics
  - fasteners
  - adhesives

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- methods and techniques for fabricating and installing frames, canopies and side curtains hoods, including:
  - selecting material
  - planning
  - measuring
  - marking out
  - cutting
  - sewing, including:
    - seams
    - attachments
    - bindings, zippers and pockets
  - using adhesives
  - fabricating and assembling frames, canopies and side curtains
  - fitting and fastening
- quality standards relating to fabricating and installing frames, canopies and side curtains
- procedures for protecting vehicle, vessel and components when installing frames, canopies and side curtains
- procedures for final inspection of fabricated and installed frames, canopies and side curtains.

Assessment Conditions

Assessors must satisfy NVR/AQTF assessor requirements.

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

Assessment must include direct observation of tasks.

Where assessment of competency includes third-party evidence, individuals must provide evidence that links them to the frames, canopies and side curtains that they have fabricated and installed, e.g. work orders.

Assessors must verify performance evidence through questioning on skills and knowledge to ensure correct interpretation and application.

The following resources must be made available:

- automotive or marine trimming workplace or simulated workplace
- workplace instructions
- PPE required to fabricate and install a frame, canopy and side curtain

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- materials to fabricate and install a frame, canopy and side curtain
- automotive or marine vessel or simulated jig requiring frame, canopy and side curtain to be fabricated and installed
- tools, equipment and materials appropriate for fabricating and installing frames, canopies and side curtains.

Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=b4278d82-d487-4070-a8c4-78045ec695b1

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=b4278d82-d487-4070-a8c4-78045ec695b1

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BSBADM502 Manage meetings

Modification History

Release	Comments
Release 1	This version first released with BSB Business Services Training Package Version 1.0.

Application

This unit describes the skills and knowledge required to manage a range of meetings including overseeing the meeting preparation processes, chairing meetings, organising the minutes and reporting meeting outcomes.

It applies to individuals employed in a range of work environments who are required to organise and manage meetings within their workplace, including conducting or managing administrative tasks in providing agendas and meeting material. They may work as senior administrative staff or may be individuals with responsibility for conducting and chairing meetings in the workplace.

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

Unit Sector

Administration – General Administration

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 Prepare for meetings	1.1 Develop agenda in line with stated meeting purpose 1.2 Ensure style and structure of meeting are appropriate to its purpose 1.3 Identify meeting participants and notify them in accordance with organisational procedures

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ELEMENT	PERFORMANCE CRITERIA
	1.4 Confirm meeting arrangements in accordance with requirements of meeting 1.5 Despatch meeting papers to participants within designated timelines
2 Conduct meetings	2.1 Chair meetings in accordance with organisational requirements, agreed conventions for type of meeting and legal and ethical requirements 2.2 Conduct meetings to ensure they are focused, time efficient and achieve the required outcomes 2.3 Ensure meeting facilitation enables participation, discussion, problem-solving and resolution of issues 2.4 Brief minute-taker on method for recording meeting notes in accordance with organisational requirements and conventions for type of meeting
3 Follow up meetings	3.1 Check transcribed meeting notes to ensure they reflect a true and accurate record of the meeting and are formatted in accordance with organisational procedures and meeting conventions 3.2 Distribute and store minutes and other follow-up documentation within designated timelines, and according to organisational requirements 3.3 Report outcomes of meetings as required, within designated timelines

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
Reading	1.1, 1.2, 1.4, 3.1, 3.2	• Identifies and interprets information from complex texts including legislation, organisational policies and procedures • Compares final output with original notes to check for accuracy
Writing	1.1-1.5, 3.2, 3.3	• Addresses the context, purpose and audience when generating a range of texts • Prepares complex texts from notes using appropriate

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		structure, and accurate spelling, grammar and punctuation • Records notes of meeting proceedings according to organisational requirements • Edits and corrects own work to ensure accuracy
Oral Communication	2.1-2.4	• Participates in verbal exchanges using appropriate style, tone and vocabulary for audience, context and purpose • Listens for specific information during meetings • Asks questions and listens to responses to clarify understanding
Numeracy	1.4, 1.5, 3.2, 3.3	• Recognises and interprets numerical information related to timeframes and budgets
Navigate the world of work	1.3, 2.1, 2.4, 3.1, 3.2	• Recognises and responds to both explicit and implicit organisational procedures and protocols and legislative/regulatory requirements
Interact with others	1.3, 1.5, 2.3, 3.2	• Selects the appropriate form, channel and mode of communication for a specific purpose relevant to own role • Cooperates with others as part of familiar activities, playing an active role in facilitating group interaction
Get the work done	1.1, 1.3, 1.4, 1.5, 2.1, 2.2, 2.4, 3.1, 3.2, 3.3	• Applies formal processes when planning complex tasks, producing plans with logically sequenced steps, reflecting an awareness of time constraints • Recognises and takes responsibility for addressing predictable problems in familiar work contexts

Unit Mapping Information

Code and title current version	**Code and title previous version**	**Comments**	**Equivalence status**
BSBADM502 Manage meetings	BSBADM502B Manage meetings	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=11ef6853-ceed-4ba7-9d87-4da407e23c10

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Assessment Requirements for BSBADM502 Manage meetings

Modification History

Release	Comments
Release 1	This version first released with BSB Business Services Training Package Version 1.0.

Performance Evidence

Evidence of the ability to:

- apply conventions and procedures for formal and informal meetings including:
  - developing and distributing agendas and papers
  - identifying and inviting meeting participants
  - organising and confirming meeting arrangements
  - running the meeting and following up
- organise, take part in and chair a meeting
- record and store meeting documentation
- follow organisational policies and procedures.

Note: If a specific volume or frequency is not stated, then evidence must be provided at least once.

Knowledge Evidence

To complete the unit requirements safely and effectively, the individual must:

- outline meeting terminology, structures, arrangements
- outline responsibilities of the chairperson and explain group dynamics in relation to managing meetings
- describe options for meetings including face-to-face, teleconferencing, web-conferencing and using webcams
- identify the relevant organisational procedures and policies regarding meetings, chairing and minutes including identifying organisational formats for minutes and agendas.

Assessment Conditions

Assessment must be conducted in a safe environment where evidence gathered demonstrates consistent performance of typical activities experienced in the general administration field of work and include access to:

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- reference material in regard to meeting venues and technology, catering and transport suppliers
- organisational policies and procedures for managing meetings
- office supplies and equipment
- computers and relevant software
- case studies and, where possible, real situations.

Assessors must satisfy NVR/AQTF assessor requirements.

Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=11ef6853-ceed-4ba7-9d87-4da407e23c10

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BSBCUS501 Manage quality customer service

Modification History

Release	Comments
Release 2	This version released with BSB Business Services Training Package Version 2.0. Version created to clarify assessment conditions
Release 1	This version first released with BSB Business Services Training Package Version 1.0.

Application

This unit describes the skills and knowledge required to develop strategies to manage organisational systems that ensure products and services are delivered and maintained to standards agreed by the organisation.

It applies to individuals who supervise the provision of quality customer service within an organisation's procedures framework by others. At this level, individuals must exercise considerable discretion and judgement, using a range of problem solving and decision making strategies.

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

Unit Sector

Stakeholder Relations – Customer Service

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 Plan to meet internal and external customer	1.1 Investigate, identify, assess, and include the needs of customers in planning processes

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ELEMENT	PERFORMANCE CRITERIA
requirements	1.2 Ensure plans achieve the quality, time and cost specifications agreed with customers
2 Ensure delivery of quality products and services	2.1 Deliver products and services to customer specifications within organisation's business plan 2.2 Monitor team performance to consistently meet the organisation's quality and delivery standards 2.3 Help colleagues overcome difficulties in meeting customer service standards
3 Monitor, adjust and review customer service	3.1 Develop and use strategies to monitor progress in achieving product and/or service targets and standards 3.2 Develop and use strategies to obtain customer feedback to improve the provision of products and services 3.3 Develop, procure and use resources effectively to provide quality products and services to customers 3.4 Make decisions to overcome problems and to adapt customer services, products and service delivery in consultation with appropriate individuals and groups 3.5 Manage records, reports and recommendations within the organisation's systems 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	Performance Criteria	Description
Reading	1.1, 1.2, 2.1, 3.1, 3.2, 3.3, 3.5	• Interprets and analyses textual information from a variety of sources and applies the knowledge that has been gained to evaluate standards for organisation's products and services
Writing	1.2, 3.1, 3.2, 3.3, 3.5	• Produces a range of text types to convey information, requirements or recommendations matching style of writing to purpose and audience
Oral Communication	1.1, 1.2, 2.1, 2.3, 3.2	• Clearly articulates systems and standards in a team environment using language suitable to diverse audiences • Uses listening and questioning techniques to obtain

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		feedback and confirm understanding
Numeracy	1.2	• Interprets and comprehends mathematical information in organisation's business and customer service plans.
Navigate the world of work	2.1, 2.2, 3.1, 3.5	• Recognises and applies organisational protocols and meets expectations associated with own work
Interact with others	1.1, 2.3, 3.4	• Identifies and uses appropriate conventions and protocols when communicating with colleagues and customers • Collaborates with others, taking into account their strengths and experience, to achieve desired outcomes • Provides support in field of expertise to team
Get the work done	1.1, 1.2, 2.1, 2.2, 3.1-3.5	• Develops and implements plans using logical processes and monitors and evaluates progress against stated goals • Accepts responsibility for addressing complex or non-routine difficulties, applying problem solving processes in determining a solution. • Uses digital technology to access, organise and present information in a format that meets requirements

Unit Mapping Information

Code and title current version	**Code and title previous version**	**Comments**	**Equivalence status**
BSBCUS501 Manage quality customer service Release 2	BSBCUS501 Manage quality customer service Release 1	Updated to clarify assessment conditions	Equivalent unit

Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=11ef6853-ceed-4ba7-9d87-4da407e23c10

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Assessment Requirements for BSBCUS501 Manage quality customer service

Modification History

Release	Comments
Release 2	This version released with BSB Business Services Training Package Version 2.0 Version created to clarify assessment conditions
Release 1	This version first released with Business Services Training Package Version 1.0.

Performance Evidence

Evidence of the ability to:

- develop and manage organisational systems for quality customer service
- develop and review plans, policies and procedures for delivering and monitoring quality customer service
- implement policies and procedures to ensure quality customer service
- solve complex customer complaints and system problems that lead to poor customer service
- monitor and assist teams to meet customer service requirements
- develop, procure and use human and physical resources to support quality customer service delivery.

Note: If a specific volume or frequency is not stated, then evidence must be provided at least once.

Knowledge Evidence

To complete the unit requirements safely and effectively, the individual must:

- outline the legislative and regulatory context of the organisation relevant to customer service
- describe organisational policy and procedures for customer service including handling customer complaints
- identify service standards and best practice models
- summarise public relations and product promotion
- outline techniques for dealing with customers including customers with specific needs

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- explain techniques for solving complaints including the principles and techniques involved in the management and organisation of:
  - customer behaviour
  - customer needs research
  - customer relations
  - ongoing product and/or service quality
  - problem identification and resolution
  - quality customer service delivery
  - record keeping and management methods
  - strategies for monitoring, managing and introducing ways to improve customer service relationships
  - strategies to obtain customer feedback.

Assessment Conditions

Assessment must be conducted in a safe environment where evidence gathered demonstrates consistent performance of typical activities experienced in the customer service field of work and include access to:

- legislation, regulations and codes of practice related to customer service
- business technology
- workplace documentation and resources
- complex customer complaints
- case studies and, where possible, real situations
- 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 guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=11ef6853-ceed-4ba7-9d87-4da407e23c10

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BSBFIM501 Manage budgets and financial plans

Modification History

Release	Comments
Release 1	This version first released with BSB Business Services Training Package Version 1.0.

Application

This unit describes the skills and knowledge required to undertake financial management within a work team in an organisation. It includes planning and implementing financial management approaches, supporting team members whose role involves aspects of financial operations, monitoring and controlling finances and reviewing and evaluating effectiveness of financial management processes.

It applies to managers in a wide range of organisations and sectors who have responsibility for ensuring that work team financial resources are used effectively and are managed in line with financial objectives of the team and organisation.

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

Unit Sector

Finance - Financial Management

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 Plan financial management approaches	1.1 Access budget/financial plans for the work team 1.2 Clarify budget/financial plans with relevant personnel within the organisation to ensure that documented outcomes are achievable, accurate and comprehensible 1.3 Negotiate any changes required to be made to budget/financial

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ELEMENT	PERFORMANCE CRITERIA
	plans with relevant personnel within the organisation 1.4 Prepare contingency plans in the event that initial plans need to be varied
2 Implement financial management approaches	2.1 Disseminate relevant details of the agreed budget/financial plans to team members 2.2 Provide support to ensure that team members can competently perform required roles associated with the management of finances 2.3 Determine and access resources and systems to manage financial management processes within the work team
3 Monitor and control finances	3.1 Implement processes to monitor actual expenditure and to control costs across the work team 3.2 Monitor expenditure and costs on an agreed cyclical basis to identify cost variations and expenditure overruns 3.3 Implement, monitor and modify contingency plans as required to maintain financial objectives 3.4 Report on budget and expenditure in accordance with organisational protocols
4 Review and evaluate financial management processes	4.1 Collect and collate for analysis, data and information on the effectiveness of financial management processes within the work team 4.2 Analyse data and information on the effectiveness of financial management processes within the work team and identify, document and recommend any improvements to existing processes 4.3 Implement and monitor agreed improvements in line with financial objectives of the work team and the organisation

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
Reading	1.1, 1.2, 2.1, 2.3, 3.1-3.4, 4.2, 4.3	• Interprets and analyses information to determine activities required

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Writing	1.1, 1.4, 4.1-4.3	• Records information in correct forms and prepares materials which convey detailed and factual content in accordance with internal procedures
Oral Communication	1.2, 1.3, 2.1-2.3	• Presents information about financial issues and requirements to a range of audiences using structure and language to suit the audience • Uses active listening and questioning to clarify information and to confirm understanding
Numeracy	1.1-1.3, 2.1-2.3, 3.1-3.4, 4.1-4.3	• Uses a wide range of mathematical calculations to analyse numeric information in budgets or financial plans
Navigate the world of work	2.2, 3.3, 3.4, 4.3	• Recognises, understands and adheres to organisational requirements in undertaking own work
Interact with others	1.2, 1.3, 2.1, 2.2, 3.1, 2.3, 4.2, 4.3	• Uses a range of strategies to connect, collaborate and cooperate with other work colleagues in activities requiring collective effort and diverse skills and knowledge
Get the work done	1.1, 1.4, 2.3, 3.1-3.4, 4.1-4.3	• Uses logical processes in planning, implementing and evaluating complex tasks and developing alternative strategies in achieving goals and timelines • Uses a range of digital technologies to access, filter, compile, integrate and logically present complex information from multiple sources

Unit Mapping Information

Code and title current version	**Code and title previous version**	**Comments**	**Equivalence status**
BSBFIM501 Manage budgets and financial plans	BSBFIM501A Manage budgets and financial plans	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=11ef6853-ceed-4ba7-9d87-4da407e23c10

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Assessment Requirements for BSBFIM501 Manage budgets and financial plans

Modification History

Release	Comments
Release 1	This version first released with Business Services Training Package Version 1.0.

Performance Evidence

Evidence of the ability to:

- use financial skills to work with and interpret budgets, ageing summaries, cash flow, petty cash, Goods and Services Tax (GST), and profit and loss statements
- communicate with relevant people to clarify budget/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 the Australian Taxation Office (ATO) and for auditing purposes.

Note: If a specific volume or frequency is not stated, then evidence must be provided at least once.

Knowledge Evidence

To complete the unit requirements safely and effectively, the individual must:

- describe basic accounting principles
- identify and explain the relevant legislation and current requirements of the Australian Taxation Office, including the Goods and Services Tax (GST)
- explain the key requirements for financiall record keeping and auditing
- describe the principles and techniques involved in managing:
  - budgeting
  - cash flows
  - electronic spreadsheets

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- GST
- ledgers and financial statements
- profit and loss statements.

Assessment Conditions

Assessment must be conducted in a safe environment where evidence gathered demonstrates consistent performance of typical activities experienced in the financial management field of work and include access to:

- resources and documentation used in the workplace
- workplace policies and procedures
- workplace budgets and financial plans
- business technology
- case studies and, where available, real situations.

Assessors must satisfy NVR/AQTF assessor requirements.

Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=11ef6853-ceed-4ba7-9d87-4da407e23c10

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BSBINM501 Manage an information or knowledge management system

Modification History

Release	Comments
Release 1	This version first released with BSB Business Services Training Package Version 1.0.

Application

This unit describes the skills and knowledge required to organise training for others for an information or knowledge management system and to manage the use of the system.

It applies to individuals who are responsible for seeing that key information and corporate knowledge are retained, accessible to others and improve business outcomes.

The unit applies to information or knowledge management systems which comprise policies, protocols, procedures and practices to manage information or knowledge within the organisation and among relevant stakeholders.

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

Unit Sector

Knowledge Management – Information Management

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 Organise learning to use information or knowledge management system	1.1 Identify learning needs of relevant personnel and stakeholders for input into and use of an information or knowledge management system 1.2 Identify and secure human, financial and physical resources

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ELEMENT	PERFORMANCE CRITERIA
	required for learning activities to use an information or knowledge management system 1.3 Organise and facilitate learning activities 1.4 Promote and support use of the system throughout the organisation 1.5 Monitor and document effectiveness of learning activities
2 Manage use of information or knowledge management system	2.1 Ensure implementation of policies and procedures for the information or knowledge management system are monitored for compliance, effectiveness and efficiency 2.2 Address implementation issues and problems as they arise 2.3 Monitor integration and alignment with data and information systems 2.4 Collect information on achievement of performance measures 2.5 Manage contingencies such as system failure or technical difficulties by accessing technical specialist help as required
3 Review use of information or knowledge management system	3.1 Analyse effectiveness of system and report on strengths and limitations of the system 3.2 Review business and operational plan and determine how effectively the system is contributing to intended outcomes 3.3 Make recommendations for improvement to system, policy or work practices

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
Reading	1.1-1.5, 2.1-2.5, 3.1-3.3	• Researches and critically analyses documentation from a variety of sources to determine requirements
Writing	1.1-1.5, 2.1-2.4, 3.2, 3.3	• Prepares and produces documentation for a specific audience using clear and detailed language to convey explicit information, requirements and recommendations

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Oral Communication	1.1, 1.2, 1.3, 1.4, 2.2, 2.5, 3.3	• Presents information using structure and language to suit the audience • Uses active listening and questioning and reading of verbal and non-verbal signals to clarify information and to confirm understanding
Navigate the world of work	2.1, 3.3	• Takes full responsibility for following policies, procedures and legislative requirements and identifies organisational implications of new legislation or regulation • Modifies or develops organisational policies and procedures to comply with legislative requirements and organisation goals
Interact with others	1.1-1.4, 2.5, 3.3	• Implements strategies for a diverse range of colleagues and clients in order to build rapport and foster strong relationships • Collaborates with others sharing information to build strong work groups and avoid behaviours that are not conducive to a productive environment • Elicits feedback and provides feedback to others in order to improve self or workgroup behaviours
Get the work done	1.1-1.5, 2.1-2.5, 3.1, 3.2	• Accepts responsibility for planning and sequencing complex tasks and workload, negotiating key aspects with others and taking into account capabilities, efficiencies and effectiveness • Monitors progress of plans and schedules and reviews and changes them to meet new demands and priorities • Applies systematic and analytical processes to address problems and make decisions in complex situations • Investigates new and innovative ideas as a means to continuously improve, work practices and processes • Uses and investigates new digital technologies and applications to manage and manipulate data and communicate effectively with others

Unit Mapping Information

Code and title current version	**Code and title previous version**	**Comments**	**Equivalence status**
BSBINM501 Manage an information or knowledge	BSBINM501A Manage an information or knowledge	Updated to meet Standards for Training Packages	Equivalent unit

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Code and title current version	Code and title previous version	Comments	Equivalence status
management system	management system		

Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=11ef6853-ceed-4ba7-9d87-4da407e23c10

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Assessment Requirements for BSBINM501 Manage an information or knowledge management system

Modification History

Release	Comments
Release 1	This version first released with BSB Business Services Training Package Version 1.0.

Performance Evidence

Evidence of the ability to:

- identify learning needs and plan and implement learning activities to enable personnel to use information or knowledge management system including
  - providing human, financial and physical resources as required
  - use of coaching, mentoring, information sessions, workshops, training programs and e-learning as appropriate
- monitor performance and address issues and contingencies as they arise including
  - accessing technical specialists as required
  - correct application of policies and procedures for the information or knowledge management system
  - alignment and effectiveness of the policies and procedures
  - effectiveness of information or knowledge management system for intended outcomes
- recommend improvements to systems, policies and practices as appropriate.

Note: If a specific volume or frequency is not stated, then evidence must be provided at least once.

Knowledge Evidence

To complete the unit requirements safely and effectively, the individual must:

- outline relevant legislation, codes of practice and national standards relevant to privacy, freedom of information and knowledge management
- explain organisational policies and procedures including:
  - records management
  - information management
  - customer service
  - commercial confidentiality

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- describe the organisational operations and existing data and information systems.

Assessment Conditions

Assessment must be conducted in a safe environment where evidence gathered demonstrates consistent performance of typical activities experienced in the knowledge management – information management field of work and include access to:

- relevant legislation, regulation, standards and codes
- relevant workplace systems, documentation and resources
- case studies and, where possible, real situations
- interaction with others.

Assessors must satisfy NVR/AQTF assessor requirements.

Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=11ef6853-ceed-4ba7-9d87-4da407e23c10

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BSBLDR402 Lead effective workplace relationships

Modification History

Release	Comments
Release 1	This version first released with BSB Business Services Training Package Version 1.0.

Application

This unit defines 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.

This 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 and evaluation and leadership and guidance of others.

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

Unit Sector

Management and Leadership - Leadership

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. Collect, analyse and communicate information and ideas	1.1 Collect relevant information from appropriate sources and analyse and share with the work team to improve work performance 1.2 Communicate ideas and information in a manner which is appropriate and sensitive to the cultural and social diversity of the

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ELEMENT	PERFORMANCE CRITERIA
	audience and any specific needs 1.3 Lead consultation processes to encourage employees to contribute to issues related to their work, and promptly relay feedback to the work team in regard to outcomes 1.4 Seek and value contributions from internal and external sources in developing and refining new ideas and approaches 1.5 Implement processes to ensure that issues raised are resolved promptly or referred to relevant personnel as required
2. Develop trust and confidence as leader	2.1 Treat all internal and external contacts with integrity, respect and empathy 2.2 Use the organisation's social, ethical and business standards to develop and maintain effective relationships 2.3 Gain and maintain the trust and confidence of colleagues, customers and suppliers through competent performance 2.4 Adjust interpersonal styles and methods to meet organisation's social and cultural environment 2.5 Lead and encourage other members of the work team to follow examples set according to organisation's policies and procedures
3. Develop and maintain networks and relationships	3.1 Use networks to identify and build relationships 3.2 Use networks and other work relationships to provide identifiable benefits for the team and organisation
4. Manage difficulties into positive outcomes	4.1 Identify and analyse difficulties and take action to rectify the situation within the requirements of the organisation and relevant legislation 4.2 Guide and support colleagues to resolve work difficulties 4.3 Regularly review and improve workplace outcomes in consultation with relevant personnel 4.4 Manage poor work performance within the organisation's processes 4.5 Manage conflict constructively within the organisation's processes

Foundation Skills

This section describes language, literacy, numeracy and employment skills incorporated in the performance criteria that are required for competent performance.

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Skill	Performance Criteria	Description
Reading	1.1	• Collects, analyses and evaluates textual information from a range of resources to inform improvement strategies
Oral Communication	1.2, 1.3, 2.4, 2.5, 4.2	• Selects or adjusts communication style to maintain effectiveness of interaction and build and maintain engagement consistent with organisational requirements
Navigate the world of work	2.2, 2.5, 4.1, 4.4, 4.5	• Recognises and follows legislative and organisational requirements relevant to own role
Interact with others	1.1-1.4, 2.1, 2.3, 2.5, 3.1, 3.2, 4.2, 4.5	• 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
Get the work done	1.1, 1.5, 4.1, 4.3	• Plans and implements activities and processes to manage and review work performance • Systematically gathers and analyses all relevant information to formulate and evaluate possible solutions to difficulties

Unit Mapping Information

Code and title current version	Code and title previous version	Comments	Equivalence status
BSBLDR402 Lead effective workplace relationships	BSBWOR401A Establish effective workplace relationships	Updated to meet Standards for Training Packages Title change Minor edits to clarify intent of performance criteria	Equivalent unit

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Links

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Assessment Requirements for BSBLDR402 Lead effective workplace relationships

Modification History

Release	Comments
Release 1	This version first released with BSB Business Services Training Package Version 1.0.

Performance Evidence

Evidence of the ability to:

- access and analyse information to achieve planned outcomes
- apply techniques for resolving problems and conflicts and dealing with poor performance within organisational and legislative requirements
- review and improve workplace outcomes in consultation with relevant personnel
- 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.

Note: If a specific volume or frequency is not stated, then evidence must be provided at least once.

Knowledge Evidence

To complete the unit requirements safely and effectively, the individual must:

- give examples of how work relationships, and the cultural and social environment, can support or hinder achieving planned outcomes
- explain techniques for developing positive work relationships and building trust and confidence in a team including interpersonal styles, communications, consultation, cultural and social sensitivity, networking
- explain the impact of legislation and organisational policies on workplace relationships
- describe a range of methods and techniques for communicating information and ideas to a range of stakeholders
- outline problems solving methods

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- explain methods to resolve workplace conflict
- explain methods to manage poor work performance
- explain how to monitor, analyse and introduce ways to improve work relationships.

Assessment Conditions

Assessment must be conducted in a safe environment where evidence gathered demonstrates consistent performance of typical activities experienced in the management and leadership field of work and include access to:

- relevant legislation, regulations, standards and codes
- relevant workplace documentation and resources
- case studies and, where possible, real situations
- interaction with others.

Assessors must satisfy NVR/AQTF assessor requirements.

Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=11ef6853-ceed-4ba7-9d87-4da407e23c10

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BSBLED401 Develop teams and individuals

Modification History

Release	Comments
Release 2	This version released with BSB Business Services Training Package Version 2.0. Version created to clarify assessment requirements
Release 1	This version first released with BSB Business Services Training Package Version 1.0.

Application

This unit describes the skills and knowledge required to determine individual and team development needs and to facilitate the development of the workgroup.

It 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

Workforce Development – Learning and Development

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 development needs	1.1 Systematically identify and implement learning and development needs in line with organisational requirements 1.2 Ensure that a learning plan to meet individual and group training and development needs is collaboratively developed, agreed to and

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ELEMENT	PERFORMANCE CRITERIA
	implemented 1.3 Encourage individuals to self-evaluate performance and identify areas for improvement 1.4 Collect feedback on performance of team members from relevant sources and compare with established team learning needs
2. Develop individuals and teams	2.1 Identify learning and development program goals and objectives, ensuring a match to the specific knowledge and skill requirements of competency standards relevant to the industry 2.2 Ensure that learning delivery methods are appropriate to the learning goals, the learning style of participants, and availability of equipment and resources 2.3 Provide workplace learning opportunities, and coaching and mentoring assistance to facilitate individual and team achievement of competencies 2.4 Create development opportunities that incorporate a range of activities and support materials appropriate to the achievement of identified competencies 2.5 Identify and approve resources and time lines required for learning activities in accordance with organisational requirements
3. Monitor and evaluate workplace learning	3.1 Use feedback from individuals or teams to identify and implement improvements in future learning arrangements 3.2 Assess and record outcomes and performance of individuals/teams to determine the effectiveness of development programs and the extent of additional development support 3.3 Negotiate modifications to learning plans to improve the efficiency and effectiveness of learning 3.4 Document and maintain records and reports of competency according to organisational requirements

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

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Learning	1.1-1.4, 2.1-2.4, 3.1, 3.3	• 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	1.1, 1.2, 1.4, 2.1, 2.2, 2.4, 2.5, 3.1-3.4	• Analyses textual information from a range of sources to identify organisational requirements • Analyses information from a range of sources to evaluate performance
Writing	1.1, 1.2, 1.4, 2.1, 2.5, 3.1-3.4	• Develops materials to suit the requirements of different roles and individuals in the organisation • Maintains records using correct technical and organisational vocabulary
Oral Communication	1.2, 1.3, 1.4, 2.3, 3.1, 3.3	• 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
Navigate the world of work	1.1, 2.5, 3.4	• Recognises and responds to explicit and implicit organisational procedures and protocols Understands how own role meshes with others and contributes to broader goals
Interact with others	1.2, 1.3, 1.4, 2.2, 2.3, 3.1, 3.3	• Selects and uses appropriate conventions and protocols when communicating with co-workers in a range of work contexts • 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 joint/agreeable outcomes playing an active role in facilitating consensus in potentially contentious situations
Get the work done	1.1, 1.2, 1.4, 2.1, 2.2, 2.3, 2.5, 3.1, 3.2, 3.4	• 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

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Unit Mapping Information

Code and title current version	Code and title previous version	Comments	Equivalence status
BSBLED401 Develop teams and individuals Release 2	BSBLED401 Develop teams and individuals Release 1	Updated to clarify assessment requirements	Equivalent unit

Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=11ef6853-ceed-4ba7-9d87-4da407e23c10

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Assessment Requirements for BSBLED401 Develop teams and individuals

Modification History

Release	Comments
Release 2	This version released with BSB Business Services Training Package Version 2.0. Version created to clarify assessment requirements
Release 1	This version first released with BSB Business Services Training Package Version 1.0.

Performance Evidence

Evidence of the ability to:

- systematically identify and implement learning opportunities for others
- collect feedback on team and individual performance
- give and receive feedback from team members to encourage participation in and effectiveness of the team
- collaboratively develop learning plans to match skill needs of individuals and groups
- provide mentoring and coaching assistance to teams and individuals
- monitor and review workplace learning.

Note: If a specific volume or frequency is not stated, then evidence must be provided at least once.

Knowledge Evidence

To complete the unit requirements safely and effectively, the individual must:

- describe facilitation techniques to encourage team development and improvement
- outline organisational policies, plans and procedures for developing teams
- identify career paths and competency standards relevant to the industry.

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Assessment Conditions

Assessment must be conducted in a safe environment where evidence gathered demonstrates consistent performance of typical activities experienced in the workforce learning and development field of work and include access to:

- office equipment and resources
- learning and development plans, policies and procedures
- case studies and, where available, real situations
- 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 guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=11ef6853-ceed-4ba7-9d87-4da407e23c10

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BSBMGT401 Show leadership in the workplace

Modification History

Release	Comments
Release 1	This version first released with BSB Business Services Training Package Version 1.0.

Application

This unit describes the skills and knowledge required to lead teams and individuals by modelling high standards of conduct to reflect the organisation's standards and values.

It applies to individuals who are making the transition from being a team member to taking responsibility for the work and performance of others and providing the first level of leadership within the organisation. These managers have a strong influence on the work culture, values and ethics of the teams they supervise.

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

Unit Sector

Management and Leadership – Management

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. Model high standards of management performance and behaviour	1.1 Ensure management performance and behaviour meets the organisation’s requirements 1.2 Ensure management performance and behaviour serves as a positive role model for others 1.3 Develop and implement performance plans in accordance with organisation’s goals and objectives 1.4 Establish and use key performance indicators to meet

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ELEMENT	PERFORMANCE CRITERIA
	organisation's goals and objectives
2. Enhance organisation's image	2.1 Use organisation's standards and values in conducting business 2.2 Question, through established communication channels, standards and values considered to be damaging to the organisation 2.3 Ensure personal performance contributes to developing an organisation which has integrity and credibility
3. Make informed decisions	3.1 Gather and organise information relevant to the issue/s under consideration 3.2 Facilitate individual's and team's active participation in decision-making processes 3.3 Examine options and assess associated risks to determine preferred course/s of action 3.4 Ensure decisions are timely and communicate them clearly to individuals and teams 3.5 Prepare plans to implement decisions and ensure they are agreed by relevant individuals and teams 3.6 Use feedback processes effectively to monitor the implementation and impact of decisions

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
Reading	1.1, 1.3, 1.4, 2.1, 3.1, 3.3, 3.5, 3.6	• Gathers, interprets and analyses text relating to organisational goals, standards and values to aid planning and decision making
Writing	1.3, 1.4, 3.1, 3.3, 3.5, 3.6	• Records and reports key information related to the organisational goals, standards and objectives • Researches, plans and prepares documentation for relevant stakeholders
Oral Communication	1.2, 1.3, 2.2, 2.3, 3.2, 3.4, 3.5, 3.6	• Uses appropriate structure and language when developing performance plans, or when seeking and providing information about organisational goals and

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		objectives
Numeracy	1.4	• Identifies and comprehends mathematical information in familiar texts to establish key performance indicators
Navigate the world of work	1.1, 1.2, 1.3, 1.4, 2.1, 2.3	• Understands how own role meshes with others and contributes to broader work goals • Monitors adherence to organisational policies and procedures and considers own role in terms of its contribution to broader goals of the work environment
Interact with others	1.2, 1.3, 2.2, 2.3, 3.2, 3.4, 3.5, 3.6	• Collaborates with others to achieve joint outcomes, playing an active role in facilitating effective outcomes • Recognises the importance of taking audience, purpose and contextual factors into account when making decisions about what to communicate with whom, why and how
Get the work done	1.1, 1.3, 1.4, 3.1, 3.2, 3.3, 3.4, 3.5, 3.6	• Develops plans to manage relatively complex, non-routine tasks with an awareness of how they contribute to longer term operational and strategic goals • Uses systematic, analytical processes in complex, non-routine situations, setting goals, gathering relevant information and identifying and evaluating options against agreed criteria • Evaluates effectiveness of decisions in terms of how well they meet stated goals

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.

Organisation's standards and values must be identified by considering:	• explicitly stated values • values that are implied by the way the organisation conducts its business.

Unit Mapping Information

Code and title current version	**Code and title previous version**	**Comments**	**Equivalence status**

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Code and title current version	Code and title previous version	Comments	Equivalence status
BSBMGT401 Show leadership in the workplace	BSBMGT401A Show leadership in the workplace	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=11ef6853-ceed-4ba7-9d87-4da407e23c10

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Assessment Requirements for BSBMGT401 Show leadership in the workplace

Modification History

Release	Comments
Release 1	This version first released with BSB Business Services Training Package Version 1.0.

Performance Evidence

Evidence of the ability to:

- identify the organisation's standards and values, whether stated or implied by the way the organisation conducts its business
- evaluate own behaviour and performance against these and adjust to achieve required standards
- develop and implement performance plans and key performance indicators (KPIs) to meet organisation's goals and objectives
- use established communication channels to raise questions about standards and values that may be damaging to the organisation
- ensure own behaviour and performance contributes to the integrity and credibility of the organisation
- facilitate processes to make decisions that are based on:
  - relevant information
  - examination of options and associated risks
  - input from relevant people
- communicate about making and implementing decisions including:
  - facilitating agreement on the preferred course of action and implementation plans
  - monitoring and feedback on the implementation and impact of decisions.

Note: If a specific volume or frequency is not stated, then evidence must be provided at least once.

Knowledge Evidence

To complete the unit requirements safely and effectively, the individual must:

- explain how to identify an organisation's standards and values when they are:
  - stated

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  - implied
- articulate organisational values and expectations of behaviour
- explain basic theory of group behaviour
- outline the organisation's process for raising questions about standards and values
- give examples of behaviours and performance that would typically be considered damaging to an organisation
- explain concepts including:
  - organisational values
  - role modelling
  - integrity and credibility
  - leadership.

Assessment Conditions

Assessment must be conducted in a safe environment where evidence gathered demonstrates consistent performance of typical activities experienced in the management and leadership field of work and include access to:

- relevant workplace documentation and resources
- case studies and, where possible, real situations
- interaction with others.

Assessors must satisfy NVR/AQTF assessor requirements.

Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=11ef6853-ceed-4ba7-9d87-4da407e23c10

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BSBMGT403 Implement continuous improvement

Modification History

Release	Comments
Release 1	This version first released with BSB Business Services Training Package Version 1.0.

Application

This unit describes the skills and knowledge required to implement the organisation's continuous improvement systems and processes. It covers using systems and strategies to actively encourage the team to participate in the process, monitoring and reviewing performance, and identifying opportunities for further improvements.

It applies to managers who have an active role in implementing the continuous improvement process to achieve the organisation's objectives. Their position is closely associated with the creation and delivery of products and services which means that they have an important role in influencing the ongoing development of the organisation.

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

Management and Leadership – Management

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. Implement continuous improvement systems and	1.1 Implement systems to ensure that individuals and teams are actively encouraged and supported to participate in decision

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ELEMENT	PERFORMANCE CRITERIA
processes	making processes, assume responsibility and exercise initiative 1.2 Communicate the organisation's continuous improvement processes to individuals and teams, and obtain feedback 1.3 Ensure effective mentoring and coaching allows individuals and teams to implement the organisation's continuous improvement processes
2. Monitor and review performance	2.1 Use the organisation's systems and technology to monitor and review progress and to identify ways in which planning and operations could be improved 2.2 Improve customer service through continuous improvement techniques and processes 2.3 Formulate and communicate recommendations for adjustments to those who have a role in their development and implementation
3. Provide opportunities for further improvement	3.1 Implement processes to ensure that team members are informed of savings and productivity/service improvements in achieving the business plan 3.2 Document work performance to aid the identification of further opportunities for improvement 3.3 Manage records, reports and recommendations for improvement within the organisation's systems 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	Performance Criteria	Description
Reading	1.1, 1.2, 2.1, 3.2, 3.3	• Evaluates and integrates facts and ideas to construct meaning from a range of text types in an effort to implement continuous improvement systems and processes
Writing	1.1, 1.2, 2.1, 2.2, 2.3, 3.1, 3.2, 3.3	• Selects vocabulary, grammatical structures and conventions appropriate to text • Researches, plans and prepares continuous improvement documentation for relevant stakeholders
Oral	1.2, 1.3, 2.3	• Participates in a variety of spoken exchanges with a range of audiences using structure and language to suit

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Communication		the audience
Navigate the world of work	2.1	• Monitors adherence to organisational policies and procedures and considers own role in terms of its contribution to broader goals of the work environment
Interact the work of others	1.2, 1.3, 2.3, 3.1	• Selects and uses appropriate conventions and protocols when communicating with diverse individuals to seek or 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
Get the work done	1.1, 1.3, 2.1, 2.2, 3.1, 3.2, 3.3	• Takes responsibility for planning and organising own workload to achieve required outcomes • Uses systematic, analytical processes in complex, non-routine situations, setting goals, gathering relevant information and identifying and evaluating options against agreed criteria • Evaluates effectiveness of decisions in terms of how well they meet stated goals • Uses digital applications to access and filter data, extract, organise, integrate and share relevant information • Recognises the potential of new approaches to enhance work practices and outcomes

Unit Mapping Information

Code and title current version	**Code and title previous version**	**Comments**	**Equivalence status**
BSBMGT403 Implement continuous improvement	BSBMGT403A Implement continuous improvement	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=11ef6853-ceed-4ba7-9d87-4da407e23c10

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Assessment Requirements for BSBMGT403 Implement continuous improvement

Modification History

Release	Comments
Release 1	This version first released with BSB Business Services Training Package Version 1.0.

Performance Evidence

Evidence of the ability to:

- implement continuous improvement systems and provide mentoring and coaching support to enable individuals and teams to participate in decisions, take responsibility, show initiative and implement improvement processes
- implement processes to inform team members about savings and productivity/service improvements achievements
- communicate effectively to support the continuous improvement system and implementation of improvements
- apply continuous improvement to customer services including internal and external customers
- implement, monitor and adjust improvement plans, processes and procedures to improve performance
- document performance to identify further opportunities for improvement
- manage records and reports within the organisation's systems and procedures.

Note: If a specific volume or frequency is not stated, then evidence must be provided at least once.

Knowledge Evidence

To complete the unit requirements safely and effectively, the individual must:

- give examples of continuous improvement processes
- list typical areas of need for coaching and mentoring to support continuous improvement
- explain how change management techniques can support continuous improvement and initiative
- identify the organisation's systems and data that can be used for benchmarking and monitoring performance for continuous improvement.

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Assessment Conditions

Assessment must be conducted in a safe environment where evidence gathered demonstrates consistent performance of typical activities experienced in the management and leadership field of work and include access to:

- relevant workplace documentation and resources
- case studies and, where possible, real situations
- interaction with others.

Assessors must satisfy NVR/AQTF assessor requirements.

Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=11ef6853-ceed-4ba7-9d87-4da407e23c10

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BSBMGT502 Manage people performance

Modification History

Release	Comments
Release 1	This version first released with BSB Business Services Training Package Version 1.0.

Application

This unit describes the skills and knowledge required to manage the performance of staff who report to them directly. Development of key result areas and key performance indicators and standards, coupled with regular and timely coaching and feedback, provide the basis for performance management.

It applies to individuals who manage people. It covers work allocation and the methods to review performance, reward excellence and provide feedback where there is a need for improvement.

The unit makes the link between performance management and performance development, and reinforces both functions as a key requirement for effective managers.

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

Unit Sector

Management and Leadership – Management

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. Allocate work	1.1 Consult relevant groups and individuals on work to be allocated and resources available

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ELEMENT	PERFORMANCE CRITERIA
	1.2 Develop work plans in accordance with operational plans 1.3 Allocate work in a way that is efficient, cost effective and outcome focussed 1.4 Confirm performance standards, Code of Conduct and work outputs with relevant teams and individuals 1.5 Develop and agree performance indicators with relevant staff prior to commencement of work 1.6 Conduct risk analysis in accordance with the organisational risk management plan and legal requirements
2. Assess performance	2.1 Design performance management and review processes to ensure consistency with organisational objectives and policies 2.2 Train participants in the performance management and review process 2.3 Conduct performance management in accordance with organisational protocols and time lines 2.4 Monitor and evaluate performance on a continuous basis
3. Provide feedback	3.1 Provide informal feedback to staff on a regular basis 3.2 Advise relevant people where there is poor performance and take necessary actions 3.3 Provide on-the-job coaching when necessary to improve performance and to confirm excellence in performance 3.4 Document performance in accordance with the organisational performance management system 3.5 Conduct formal structured feedback sessions as necessary and in accordance with organisational policy
4. Manage follow up	4.1 Write and agree on performance improvement and development plans in accordance with organisational policies 4.2 Seek assistance from human resources specialists, where appropriate 4.3 Reinforce excellence in performance through recognition and continuous feedback 4.4 Monitor and coach individuals with poor performance 4.5 Provide support services where necessary 4.6 Counsel individuals who continue to perform below expectations and implement the disciplinary process if necessary 4.7 Terminate staff in accordance with legal and organisational

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ELEMENT	PERFORMANCE CRITERIA
	requirements where serious misconduct occurs or ongoing poor-performance continues

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	2.2, 3.3, 4.4	• Consolidates and improves own knowledge and skills by coaching, mentoring or training others
Reading	1.2, 1.6, 2.4	• Gathers, interprets and analyses texts in organisational documents to facilitate performance management
Writing	1.2, 1.4, 1.5, 1.6, 2.1, 2.3, 2.4, 3.4, 3.5, 4.1, 4.7	• Plans and prepares documents for allocating work and managing performance suitable for the target audience and in accordance with organisational requirements
Oral Communication	1.1, 1.4, 1.5, 2.2, 2.3, 3.1, 3.2, 3.3, 3.5, 4.2-4.7	• Uses language and structure appropriate to context and audience to explain expected standards of performance, provide feedback and coach staff
Numeracy	1.3, 1.4, 1.5, 1.6, 2.1, 2.4, 3.4, 4.1	• Extracts and evaluates mathematical information embedded in a range of tasks and text relating to performance standards and risk analysis
Navigate the world of work	1.2, 1.6, 2.1, 2.3, 3.4, 3.5, 4.1, 4.7	• Appreciates the implications of legal and regulatory responsibilities related to own work and the organisation as a whole • Monitors adherence to organisational policies and procedures
Interact with others	1.1, 1.3, 1.4, 1.5, 2.2, 3.1, 3.2, 3.3, 4.2-4.6	• Recognises and applies the protocols governing what to communicate to whom and how in a range of work contexts • Collaborates with others to achieve joint outcomes, influencing direction and taking a leadership role on occasion
Get the work done	1.2, 1.3, 1.5, 1.6, 2.1, 2.4, 4.1, 4.2	• Sequences and schedules complex activities, monitors implementation and manages relevant communication • Seeks advice, feedback and support as required to assist in the decision-making process • Uses experiences to reflect on the ways in which

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		variables impact on performance

Unit Mapping Information

Code and title current version	**Code and title previous version**	**Comments**	**Equivalence status**
BSBMGT502 Manage people performance	BSBMGT502B Manage people performance	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=11ef6853-ceed-4ba7-9d87-4da407e23c10

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Assessment Requirements for BSBMGT502 Manage people performance

Modification History

Release	Comments
Release 1	This version first released with BSB Business Services Training Package Version 1.0.

Performance Evidence

Evidence of the ability to:

- consult with relevant stakeholders to identify work requirements, performance standards and agreed performance indicators
- develop work plans and allocate work to achieve outcomes efficiently and within organisational and legal requirements
- monitor, evaluate and provide feedback on performance and provide coaching or training, as needed
- reinforce excellence in performance through recognition and continuous feedback
- seek assistance from human resources specialists where appropriate
- keep records and documentation in accordance with the organisational performance management system.

Note: If a specific volume or frequency is not stated, then evidence must be provided at least once.

Knowledge Evidence

To complete the unit requirements safely and effectively, the individual must:

- outline relevant legislative and regulatory requirements
- outline relevant awards and certified agreements
- explain performance measurement systems utilised within the organisation
- explain unlawful dismissal rules and due process
- describe staff development options and information.

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Assessment Conditions

Assessment must be conducted in a safe environment where evidence gathered demonstrates consistent performance of typical activities experienced in the management and leadership field of work and include access to:

- relevant legislation
- workplace documentation and resources
- case studies and, where possible, real situations
- interaction with others.

Assessors must satisfy NVR/AQTF assessor requirements.

Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=11ef6853-ceed-4ba7-9d87-4da407e23c10

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BSBMGT605 Provide leadership across the organisation

Modification History

Release	Comments
Version 1	This version first released with BSB Business Services Training Package Version 1.0.

Application

This unit describes the skills and knowledge required to demonstrate senior leadership behaviour and personal and professional competence. Business ethics are also addressed in this unit.

It applies to individuals who have a role in inspiring and motivating others to achieve organisational goals and to model professionalism in their organisation and industry. Leadership is seen in the context of the organisational mission.

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

Unit Sector

Management and Leadership – Management

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. Communicate organisational mission and goals	1.1 Clarify objectives, values and standards in accordance with organisation's strategic direction 1.2 Establish linkages between organisational objectives, values and standards and the responsibilities of relevant groups and individuals 1.3 Ensure media and language used is appropriate to individuals and group circumstances

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ELEMENT	PERFORMANCE CRITERIA
	1.4 State clear expectations of internal groups and individuals and explain in a manner which builds commitment to the organisation 1.5 Address expectations of the organisation 1.6 Investigate incidents promptly and communicate results clearly to relevant groups and individuals
2. Influence groups and individuals	2.1 Build trust, confidence and respect of diverse groups and individuals through positive role modelling and effective communication and consultation 2.2 Embrace, resource and effectively implement improvements to organisational and workplace culture 2.3 Demonstrate understanding of the global environment and new technology in work activities 2.4 Ensure actions convey flexibility and adaptability to change and accessibility 2.5 Ensure consultation and participation in decision making occurs with relevant groups and individuals where appropriate 2.6 Ensure decision making takes into account needs and expectations of both internal and external groups 2.7 Ensure decision making occurs in accordance with risk management plans for all options, and within appropriate timeframes 2.8 Ensure that the organisation is represented positively in the media and community
3. Build and support teams	3.1 Assign accountabilities and responsibilities to teams consistent with their competencies and operational plans 3.2 Ensure teams are resourced to allow them to achieve their objectives 3.3 Empower teams and individuals through effective delegation and support for their initiatives 3.4 Create and maintain a positive work environment 3.5 Encourage teams and individuals to develop innovative approaches to the performance of work
4. Demonstrate personal and professional competence	4.1 Model ethical conduct in all areas of work and encourage others to adopt business ethics 4.2 Adapt appropriate interpersonal and leadership styles to meet particular circumstances and situations 4.3 Set and achieve personal objectives and work program

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ELEMENT	PERFORMANCE CRITERIA
	outcomes 4.4 Ensure self-performance and professional competence is continuously improved through engagement in a range of professional development activities 4.5 Participate regularly in industry/professional networks and groups

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	4.3, 4.4, 4.5	• Actively looks for and accepts ways to maintain and improve own skills and knowledge
Reading	1.2, 1.3, 1.6, 2.7, 4.4, 4.5	• Evaluates and integrates facts and ideas to construct meaning from a range of text types
Writing	1.1, 1.2, 1.3, 1.4, 1.6, 3.1, 4.3	• Records and reports key information related to the outcomes of the job to interact effectively and appropriately with the team • Researches, plans and prepares documentation using format and language appropriate to the audience
Oral Communication	1.1, 1.2, 1.4, 1.5, 1.6, 2.1, 2.5, 3.1, 3.3, 3.4, 3.5, 4.1, 4.2	• Participates in a variety of spoken exchanges with clients, co-workers and stakeholders using structure and language appropriate to context and audience
Navigate the world of work	1.1, 1.2, 1.5, 1.6, 2.8, 3.1, 4.1	• Works autonomously making high level decisions related to the achievement of organisational goals • Reflects on designation of roles and responsibilities and how everyone's role contributes to broader organisational goals • Appreciates the implications of ethical and other organisational responsibilities in carrying out own role
Interact with others	1.3, 1.4, 1.6, 2.1, 2.4, 3.1, 3.3, 3.4, 3.5, 4.1, 4.2	• Demonstrates sophisticated control over oral, visual and/or written formats, drawing on a range of communication practices to achieve goals • Identifies strengths and limitations of own interpersonal skills and addresses areas that would benefit from further development

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		• Recognises the importance of building rapport in order to establish effective working relationships and inspire trust and confidence • Collaborates and cooperates with others, playing an active role in leading and facilitating effective group interaction and influencing direction • Facilitates a climate in which others feel comfortable to identify, explore and build on a variety of perspectives in order to achieve shared outcomes
Get the work done	1.1, 1.2, 1.6, 2.2-2.7, 3.1, 3.2, 3.5	• Accepts responsibility for planning and sequencing complex tasks and workload of self and others, negotiating key aspects with others taking into account capabilities, efficiencies and effectiveness • Applies problem solving processes to identify risks, evaluate options and determine solutions • Facilitates a climate in which creativity and innovation are accepted as an integral part of achieving outcomes • Actively identifies systems, devices and applications with potential to meet current and/or future needs

Unit Mapping Information

Code and title current version	**Code and title previous version**	**Comments**	**Equivalence status**
BSBMGT605 Provide leadership across the organisation	BSBMGT605B Provide leadership across the organisation	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=11ef6853-ceed-4ba7-9d87-4da407e23c10

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Assessment Requirements for BSBMGT605 Provide leadership across the organisation

Modification History

Release	Comments
Version 1	This version first released with BSB Business Services Training Package Version 1.0.

Performance Evidence

Evidence of the ability to use interpersonal and risk management skills to:

- clearly communicate the organisation's objectives, values and standards to a range of stakeholders using appropriate media and language
- influence, support and provide resources for individuals and groups to:
  - participate in consultations and decision making processes
  - contribute to innovation and improvements
  - achieve their responsibilities and objectives
- facilitate consultative decision making processes with relevant internal and external stakeholders
- demonstrate ethical conduct and professional competence and continuing professional development
- encourage others to adopt business ethics and build their commitment to the organisation.

Note: If a specific volume or frequency is not stated, then evidence must be provided at least once.

Knowledge Evidence

To complete the unit requirements safely and effectively, the individual must:

- explain business ethics and their application to leadership
- outline leadership styles and their application in supporting the organisation's mission, objectives and values
- explain the impact of legislation in providing leadership in the organisation
- explain the organisation's mission, purpose and values
- describe organisation objectives, plans and strategies
- explain organisational change processes.

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Assessment Conditions

Assessment must be conducted in a safe environment where evidence gathered demonstrates consistent performance of typical activities experienced in the management and leadership field of work and include access to:

- relevant legislation, regulation, standards and codes
- relevant workplace documentation and resources
- case studies and, where possible, real situations
- interaction with others.

Assessors must satisfy NVR/AQTF assessor requirements.

Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=11ef6853-ceed-4ba7-9d87-4da407e23c10

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BSBWHS401 Implement and monitor WHS policies, procedures and programs to meet legislative requirements

Modification History

Release	Comments
Release 1	This version first released with BSB Business Services Training Package release 1.0

Application

This unit describes the skills and knowledge required to implement and monitor an organisation's work health and safety (WHS) policies, procedures and programs in the relevant work area in order to meet legislative requirements.

It applies to individuals with supervisory responsibilities for implementing and monitoring the organisation's WHS policies, procedures and programs in a work area. These individuals have a broad knowledge of WHS policies and contribute well developed skills in creating solutions to unpredictable problems through analysis and evaluation of information from a variety of sources. They provide supervision and guidance to others and have limited responsibility for the output of others.

NOTE: 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 the Model WHS Legislation has not been implemented RTOs are advised to contextualise the unit of competency by referring to the existing State/Territory OHS legislative requirements.

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

ELEMENT	PERFORMANCE CRITERIA
Elements describe the	*Performance criteria describe the performance needed to*

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ELEMENT	PERFORMANCE CRITERIA
essential outcomes.	*demonstrate achievement of the element.*
1. Provide information to the work team about WHS policies and procedures	1.1 Accurately explain to the work team relevant provisions of WHS Acts, regulations and codes of practice 1.2 Provide information about the organisation's WHS policies, procedures and programs, and ensure it is readily accessible to, and understandable by the work team 1.3 Regularly provide and clearly explain to the work team information about identified hazards and the outcomes of risk assessment and control
2. Implement and monitor participation arrangements for managing WHS	2.1 Communicate to workplace parties the importance of effective consultation mechanisms in managing health and safety risks in the workplace 2.2 Apply consultation procedures to facilitate participation of the work team in managing work area hazards 2.3 Promptly deal with issues raised through consultation, according to organisational consultation procedures and WHS legislative and regulatory requirements 2.4 Promptly record and communicate to the work team the outcomes of consultation over WHS issues
3. Implement and monitor organisational procedures for providing WHS training	3.1 Identify WHS training needs according to organisational requirements and WHS legislative and regulatory requirements 3.2 Make arrangements to meet WHS training needs of team members in consultation with relevant individuals 3.3 Provide workplace learning opportunities and coaching and mentoring assistance to facilitate team and individual achievement of identified WHS training needs 3.4 Identify and report to management the costs associated with providing training for work team, for inclusion in financial and management plans
4. Implement and monitor organisational procedures and legal requirements for identifying hazards and assessing and controlling risks	4.1 Identify and report on hazards in work area according to WHS policies and procedures and WHS legislative and regulatory requirements 4.2 Promptly action team member hazard reports according to organisational procedures and WHS legislative and regulatory requirements 4.3 Implement procedures to control risks using the hierarchy of control, according to organisational and WHS legislative requirements

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ELEMENT	PERFORMANCE CRITERIA
	4.4 Identify and report inadequacies in existing risk controls according to hierarchy of control and WHS legislative requirements 4.5 Monitor outcomes of reports on inadequacies, where appropriate, to ensure a prompt organisational response
5. Implement and monitor organisational procedures for maintaining WHS records for the team	5.1 Accurately complete and maintain WHS records of incidents of occupational injury and disease in work area, according to WHS policies, procedures and legislative requirements 5.2 Use aggregate information and data from work area records to identify hazards and monitor risk control procedures in work area

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
Reading	1.1-1.3, 5.2	• Interprets and analyses complex WHS legislative and organisational texts
Writing	1.1-1.3, 2.3, 2.4, 3.1, 3.2, 3.4, 4.1, 4.4, 5.1	• Documents WHS legislative and organisational information using structure, layout and language suitable for audience • Records WHS issues and actions taken according to reporting requirements • Prepares and maintains required records using appropriate structure and vocabulary
Oral communication	1.1-1.3, 2.1, 2.4, 3.2, 3.3, 4.1, 4.4	• Provides WHS legislative and organisational information and advice using structure and language suitable for audience
Numeracy	3.4, 5.2	• Extracts, interprets and comprehends mathematical information in relation to training costs and risk management data
Navigate the world of work	1.1,1.2, 2.3, 3.1, 4.1-4.5, 5.1	• Takes responsibility for adherence to legal and regulatory responsibilities and organisational policies and procedures in relation to WHS • Keeps up to date on changes to WHS legislation or regulations and organisational policies and procedures
Interact with	2.2, 3.2, 3.3	• Selects and uses appropriate conventions and protocols to facilitate consultation or provide feedback

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others		• Initiates and contributes to facilitating consultative role, responding, explaining, clarifying and expanding on ideas and information as required • Collaborates with others to achieve individual and team outcomes
Get the work done	2.2, 3.2, 3.3, 4.1-4.5, 5.1	• Uses combination of formal, logical planning and intuitive understanding of context to identify relevant information and risks, and identify and evaluate alternative strategies • Uses formal decision-making processes, setting or clarifying goals, gathering information and identifying and evaluating choices against a set of criteria • Recognises and takes responsibility for reporting WHS risk control inadequacies • Uses formal and informal processes to monitor implementations of WHS solutions and reflect on outcomes

Unit Mapping Information

Code and title current version	**Code and title previous version**	**Comments**	**Equivalence status**
BSBWHS401 Implement and monitor WHS policies, procedures and programs to meet legislative requirements	BSBWHS401A Implement and monitor WHS policies, procedures and programs to meet legislative requirements	Updated to meet Standards for Training Packages Minor edits to clarify intent of performance criteria	Equivalent unit

Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=11ef6853-ceed-4ba7-9d87-4da407e23c10

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Assessment Requirements for BSBWHS401 Implement and monitor WHS policies, procedures and programs to meet legislative requirements

Modification History

Release	Comments
Release 1	This version first released with BSB Business Services Training Package Version 1.0.

Performance Evidence

Evidence of the ability to:

- explain clearly and accurately to work team the relevant work health and safety (WHS) information including:
  - WHS legislative and organisational requirements
  - identified hazards and outcomes of risk assessment and control
- ensure that the team has access to information about WHS policies, procedures and programs in appropriate structure and language
- implement and monitor procedures according to organisational and legislative WHS requirements including:
  - consultation and communications to enable team members to participate in managing WHS risks and hazards
  - identifying WHS training needs and providing learning opportunities, coaching and mentoring as appropriate to needs
  - identifying, reporting and taking action on WHS hazards and risks
  - identifying and reporting inadequacies in existing risk controls and monitoring outcomes to ensure a prompt organisational response
  - reporting on the cost of WHS training
  - keeping WHS records
  - analysing aggregate WHS data to identify hazards and monitor risk control procedures in work area.

Note: If a specific volume or frequency is not stated, then evidence must be provided at least once.

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Knowledge Evidence

To complete the unit requirements safely and effectively, the individual must:

- outline the legal responsibilities and duties of managers, supervisors, persons conducting businesses or undertakings (PCBUs) and workers in relation to WHS risk management in the workplace
- identify key provisions of relevant WHS Acts, regulations and codes of practice that apply to the business and outline how they apply in the work area
- explain organisational policies and procedures relating to hazard identification, risk management, fire, emergency and evacuation, incident investigation and reporting
- explain the importance of effective consultation mechanisms in managing health and safety risks in the workplace
- explain how the hierarchy of control applies in the work area.

Assessment Conditions

Assessment must be conducted in a safe environment where evidence gathered demonstrates consistent performance of typical activities experienced by individuals carrying out work health and safety duties in the workplace and include access to:

- an actual workplace or simulated environment
- workplace equipment and resources
- examples of documents relating to workplace safety, hazard identification and risk assessment
- interaction with others.

Assessors must satisfy NVR/AQTF assessor requirements.

Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=11ef6853-ceed-4ba7-9d87-4da407e23c10

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BSBWRK520 Manage employee relations

Modification History

Release	Comments
Release 1	This version first released with BSB Business Services Training Package Version 3.0.

Application

This unit describes the skills and knowledge required to manage employee and industrial relations matters in an organisation. It involves developing and implementing employee and industrial relations policies and plans and managing conflict resolution negotiations.

It applies to those who are authorised to oversee industrial relations and manage conflict and grievances in an organisation. They will have a sound theoretical knowledge base in human resources management and industrial relations as well as current knowledge of industrial relations trends and legislation.

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

Unit Sector

Workforce Development – Workplace Relations

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 employee and industrial relations policies and plans	1.1 Analyse strategic plans and operational plans to determine long term employee relations in accordance with organisational objectives 1.2 Analyse existing employee relations performance in relation to workforce objectives 1.3 Evaluate options in terms of cost-benefit, risk-analysis and

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ELEMENT	PERFORMANCE CRITERIA
	current legislative requirements 1.4 Work with relevant internal stakeholders to develop industrial relations policies and plans 1.5 Identify the skills and knowledge needed by management and the workforce to effectively implement these strategies and policies
2. Implement employee relations policies and plans	2.1 Develop an implementation plan and a contingency plan for the employee relations policies and strategies 2.2 Make arrangements for training and development for identified needs to support the employee relations plan 2.3 Undertake associated employee relations activities to reach agreement on changes required by the organisational policies or implementation plan 2.4 Document procedures for addressing grievances and conflict 2.5 Identify and communicate key procedures for addressing grievances and conflict to stakeholders 2.6 Review employee relations policies and plans to establish whether they are meeting their intended outcomes
3. Manage negotiations to resolve conflict	3.1 Develop and deliver training to individuals in conflict-management techniques and procedures 3.2 Identify, and where possible alleviate or eliminate, sources of conflict or grievance according to legal requirements 3.3 Evaluate documentation and other information sources to clarify issues in dispute and ensure completeness, balance and relevance 3.4 Obtain expert or specialist advice and/or refer to precedents, if required 3.5 Determine desired negotiation outcomes, negotiation strategy and negotiation timeframes 3.6 Advocate the organisation’s position in negotiation with the view to reaching a resolution that aligns to organisational objectives 3.7 Document, and if necessary certify, the agreed outcomes with the relevant jurisdiction 3.8 Take remedial action where groups or individuals fail to abide by agreements

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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	• Interprets, critically analyses and applies appropriate strategies to construct meaning from complex texts
Writing	• Displays knowledge of required structure and layout, employing broad vocabulary, grammatical structure and conventions appropriate to purpose and audience
Oral communication	• Conveys information using language and non-verbal features appropriate to the audience • Employs listening and questioning techniques to clarify and confirm understanding
Numeracy	• Extracts and evaluates the mathematical information embedded in a range of tasks and texts
Navigate the world of work	• Modifies or develops organisational policies to achieve organisational goals and comply with legislative requirements • Keeps up to date on changes to legislation or regulations relevant to own rights and responsibilities and considers implications of these
Interact with others	• Collaborates with others to achieve joint outcomes, playing an active role in facilitating effective group interaction, influencing direction and taking a leadership role on occasion • Actively builds networks that include key people with expert skills and knowledge • Uses a range of strategies to facilitate an acceptable outcome for all parties where conflicts occur
Get the work done	• Sequences and schedules complex activities, monitors implementation and manages relevant communication • Uses analytical techniques to identify issues and generate possible solutions, seeking input from others as required, before making decisions or implementing solutions • Draws on the diverse perspectives of others to gain insights into current practices and opportunities for change

Unit Mapping Information

Code and title current version	Code and title previous version	Comments	Equivalence status
BSBWRK520	BSBWRK510 Manage	Updates to elements,	Equivalent unit

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Code and title current version	Code and title previous version	Comments	Equivalence status
Manage employee relations	employee relations	performance criteria and assessment requirements	

Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=11ef6853-ceed-4ba7-9d87-4da407e23c10

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Assessment Requirements for BSBWRK520 Manage employee relations

Modification History

Release	Comments
Release 1	This version first released with BSB Business Services Training Package Version 3.0.

Performance Evidence

Evidence of the ability to:

- analyse organisational documentation to determine long-term employee relations objectives and current employee relations performance
- collaborate with others to develop and review industrial relations policies and plans
- develop implementation and contingency plans for industrial relations policies
- identify the skills and knowledge needed to implement the plan and organise training and development for self and staff
- document and communicate strategies and procedures for eliminating and dealing with grievances and disputes
- train others in conflict-resolution techniques
- manage industrial relations conflicts, including advocating the organisation's position during negotiations and documenting, implementing and following up agreements.

Note: If a specific volume or frequency is not stated, then evidence must be provided at least once.

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, and to manage tasks and reasonably foreseeable contingencies in the context of the work role:

- Key features of relevant industrial relations legislation or regulations
- Key features of enterprise and workplace bargaining processes
- Key features of relevant entities in the current Australian industrial relations system, including courts and tribunals, trade unions and employer bodies
- Key sources of expert industrial relations advice
- Key features of relevant organisational policies and procedures
- Key features of organisational objectives.

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Assessment Conditions

Assessment must be conducted in a safe environment where evidence gathered demonstrates consistent performance of typical activities experienced in the workforce development – workplace relations field of work and include access to:

- awards and enterprise bargaining agreements
- relevant legislation, regulations, standards and codes
- relevant workplace documentation and resources
- case studies and, where possible, real situations
- 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 guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=11ef6853-ceed-4ba7-9d87-4da407e23c10

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BSBWRT401 Write complex documents

Modification History

Release	Comments
Release 1	This version first released with BSB Business Services Training Package Version 1.0.

Application

This unit describes the skills and knowledge required to plan documents, draft text, prepare final text and produce documents of some complexity.

It applies to individuals who work in a range of business environments and are skilled in the creation of reports, information and general promotion documents that are more complex than basic correspondence, memos or forms and that require review and analysis of a range of information sources.

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

Unit Sector

Communication – Writing

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 Plan documents	1.1 Determine the purposes of documents 1.2 Choose appropriate formats for documents 1.3 Establish means of communication 1.4 Determine requirements of documents 1.5 Determine categories and logical sequences of data, information and knowledge to achieve document objectives

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ELEMENT	PERFORMANCE CRITERIA
	1.6 Develop overview of structure and content of documents
2 Draft text	2.1 Review and organise available data, information and knowledge according to proposed structure and content 2.2 Ensure data, information and knowledge is aggregated, interpreted and summarised to prepare text that satisfies document purposes and objectives 2.3 Include graphics as appropriate 2.4 Identify gaps in required data and information, and collect additional material from relevant enterprise personnel 2.5 Draft text according to document requirements and genre 2.6 Use language appropriate to the audience
3 Prepare final text	3.1 Review draft text to ensure document objectives are achieved and requirements are met 3.2 Check grammar, spelling and style for accuracy and punctuation 3.3 Ensure draft text is approved by relevant enterprise personnel 3.4 Incorporate revisions in final copy
4 Produce document	4.1 Choose basic design elements for documents appropriate to audience and purpose 4.2 Use word processing software to apply basic design elements to text 4.3 Check documents to ensure all requirements are met

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
Reading	1.1, 1.2, 2.1, 2.2, 2.4, 3.1, 3.2, 4.3	• Interprets information to identify requirements and prepares material suitable to target audience and environment • Proofreads texts for accuracy
Writing	1.6, 2.2, 2.3, 2.5,	• Creates documents for a specific audience using cohesive and well-structured language to convey

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	2.6, 3.2, 3.4, 4.1	detailed and accurate information • Ensures vocabulary, layout and grammatical arrangement achieves meaning and intent of document
Oral Communication	1.1, 1.4, 2.4, 3.3	• Obtains information or clarifies requirements by asking questions and listening
Navigate the world of work	1.4, 4.3	• Adheres to organisational policies and procedures related to document production
Interact with others	1.1, 1.4, 1.5, 2.4, 3.3	• Follows accepted communication practices and protocols when seeking advice about documents from colleagues, supervisors and managers
Get the work done	1.1-1.6, 2.1-2.5, 3.3, 4.1-4.2	• Plans, organises and implements tasks required to produce documents • Makes decisions based on standard procedures, using more formal decision making processes where required • Uses the main features and functions of digital tools to complete work tasks

Unit Mapping Information

Code and title current version	**Code and title previous version**	**Comments**	**Equivalence status**
BSBWRT401 Write complex documents	BSBWRT401A Write complex documents	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=11ef6853-ceed-4ba7-9d87-4da407e23c10

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Assessment Requirements for BSBWRT401 Write complex documents

Modification History

Release	Comments
Release 1	This version first released with BSB Business Services Training Package Version 1.0.

Performance Evidence

Evidence of the ability to:

- plan, draft and finalise complex documents that require review and analysis of a range of information sources
- use business technology to apply formatting, and incorporate graphics
- edit the draft text to ensure accuracy and clarity of information, obtain feedback on the draft and revise the draft
- apply the enterprise style guide/house style.

Note: If a specific volume or frequency is not stated, then evidence must be provided at least once.

Knowledge Evidence

To complete the unit requirements safely and effectively, the individual must:

- identify the enterprise style guide/house style
- outline formatting styles and their impact on formatting, readability and appearance of documents
- explain rules and conventions for written English, as defined by general and specialist sources.

Assessment Conditions

Assessment must be conducted in a safe environment where evidence gathered demonstrates consistent performance of typical activities experienced in the communication – writing field of work and include access to:

- office equipment and resources
- organisational policies and procedures
- organisational style guides.

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Assessors must satisfy NVR/AQTF assessor requirements.

Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=11ef6853-ceed-4ba7-9d87-4da407e23c10

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CPCCCM1016A Identify requirements for safe tilt-up work

Modification History

Nominal AQF level of unit and unit title changed to better reflect unit outcomes

Prerequisite unit requirement removed

Changes to wording of elements and required skills

Not equivalent to CPCCCM2011A

Unit Descriptor

This unit of competency specifies the outcomes required for tilt-up work induction training within the construction industry. Licensing requirements will apply to this unit of competency depending on the regulatory requirements of each jurisdiction.

Application of the Unit

This unit of competency supports achievement of tilt-up work knowledge required prior to entering tilt-up workplaces. It meets the needs of workers requiring tilt-up work induction training according to legislative requirements.

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Nil

Employability Skills Information

This unit contains employability skills.

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.

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Elements and Performance Criteria

1	Identify tilt-up construction and risk management processes.	1.1	Relationship is identified between each ***stage of the tilt-up construction process*** and the following stage, and typical faults, problems, hazards and possible effects if design and safety requirements are not met.
		1.2	Basic principles of risk management and duty holders responsible are identified.
		1.3	Minimum requirements for a safe work method statement for each task as outlined in the ***national code of practice***, and the duty holder responsible for its preparation and compliance are identified.
		1.4	Minimum requirements are identified for a work plan and/or work health and safety (WHS) management plan for tilt-up construction, as outlined in the national code of practice.
		1.5	Available ***skills training*** opportunities relevant to own work, role and responsibilities are identified.
2	Identify information relating to safe tilt-up construction.	2.1	***Regulatory information*** relevant to own work, role and responsibilities is identified.
		2.2	Roles and responsibilities of self and others relevant to own work and role in tilt-up construction are identified.
		2.3	General work procedures, ***documentation, drawings and plans*** for carrying out the tilt-up construction process relevant to own work, role and responsibilities are identified.
		2.4	General safety requirements for ***equipment and tools*** used in the tilt-up construction process relevant to own work, role and responsibilities are identified.
3	Identify procedures to maintain safety of	3.1	Communication with others is undertaken to establish that key safety requirements have been met for preceding stages of tilt-up construction.

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self and others.

3.2 General procedures for responding to, rectifying and reporting faults, problems and hazards relevant to own work, role and responsibilities are identified.

3.3 Methods and procedures used to control tilt-up construction ***hazards*** are identified, including the content of the work plan and/or WHS management plan and ***safe work method statements*** relevant to own work, role and responsibilities.

3.4 Sequence of tasks and activities relevant to own work is identified and adequacy of the associated safe work method statement is reviewed by conducting a ***job safety analysis***.

Required Skills and Knowledge

This section describes the skills and knowledge required for this unit.

Required skills

- communication and interpersonal skills to:
  - contribute to the discussion of workplace hazards and risks
  - ask effective questions
  - collaborate with colleagues
  - relay information to others
  - report on WHS issues
- language and literacy skills to understand plans and procedures, including WHS requirements, such as:
  - safety signs and symbols
  - safe work method statements
  - safe working procedures

Required knowledge

- construction terminology
- hazard identification and risk control related to tilt-up work
- job safety analysis (JSA) and safe work method statements (SWMS)
- requirements for planning, preparing and carrying out the tilt-up construction process as relevant to own work, role and responsibilities
- safety equipment used on construction work sites

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- stages in the tilt-up construction process
- WHS standards, legislative requirements and codes of practice related to tilt-up work

Evidence Guide

The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.

Overview of assessment

Competency is to be assessed only after completion of the General Induction Training Program specified by the National Code of Practice for Induction for Construction Work.

Critical aspects for assessment and evidence required to demonstrate competency in this unit

Evidence must confirm understanding and knowledge of the following:

- relevant legal responsibilities, codes of practice and standards for tilt-up construction work
- the range of common tilt-up construction hazards and procedures for the assessment of risks and application of the hierarchy of control
- an understanding of job safety analysis and safe work method statements.

Context of and specific resources for assessment

The relevant WHS authority may have specific requirements concerning the expertise necessary to be a subject expert for assessment of this unit. Assessment must be made according to any such requirements.

Procedures and documentation should cover those used in the workplace.

Resources must be available to support the program including:

- relevant standards, regulations and code of practice for tilt-up construction
- Australian standards AS3850 and AS3600
- participant materials and other information
- drawings and specifications
- tilt-up slab related plans
- safe load tables
- safe work method statements

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- JSA materials.

A range of assessment tools and resources should be used to suit the learning preferences or special learning needs of individual participants.

Method of assessment

Assessment methods may include more than one of the following:

- practical assessment
- oral questioning
- written test
- work-based activities
- problem solving scenarios
- simulated project based activity.

Range Statement

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.

Stages of the tilt-up construction process cover:

- design and manufacture
- handling, storage and transportation
- cranage and erection
- temporary bracing, stabilisation and incorporation of concrete panels
- demolition

National code of practice refers to:

- National Code of Practice for Precast, Tilt-Up and Concrete Elements in Building Construction.

Skills training opportunities could include completing further training, including:

- CPCCBC4022A Supervise tilt-up work
- CPCCCO3028A Carry out tilt panel construction
- CPCCRI3015A Perform advanced tilt-up slab erection.

Regulatory information includes

- Australian standards AS3850 and AS3600

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general WHS requirements, such as:	• duty holder responsibilities • emergency procedures • relevant standards, regulations and codes of practice for tilt-up and pre-cast concrete construction • training, supervision and risk management in the context of tilt-up and pre-cast concrete construction.
Documentation, drawings and plans include:	• design provisions and drawings • erection and crane drawings and documentation • JSA documentation • marking plan and shop drawings • prefabricators and engineers' inspection reports and statements • safe work method statements • specifications • transport management plan • work plan and/or WHS management plan.
Equipment and tools include:	• bracing • cranes • elevated work platforms • manual tools • mobile scaffolding • portable electric and pneumatic tools • props • rigging equipment • rigging gear • safety net and static lines.
Hazards include anything with the potential to cause injury, harm or ill health, such as:	• environmental factors, e.g. wind, temperature, noise and lighting • overhead or underground services • trees, buildings and structures • uneven or unstable ground • unstable panels during lifting.
Safe work method statement is a statement that:	• describes how safety measures will be implemented to do the work safely

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- describes the control measures that will be applied to the work activities
- identifies work activities assessed as having safety risk or risks
- includes a description of the equipment used in the work, the qualifications of the personnel doing the work, and the training required to do the work safely
- states the safety risk or risks.

Job safety analysis is:

- a technique that breaks a task into steps
- identifies the hazards and appropriate control measures for each step.

Unit Sector(s)

Functional area

Unit sector Construction

Custom Content Section

Not applicable.

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CPCPCM2043A Carry out WHS requirements

Modification History

Changes to application, elements and performance criteria, required skills and knowledge, range statement and critical aspects

Not equivalent to CPCPCM2023A

Unit Descriptor

This unit of competency specifies the outcomes required to carry out work health and safety (WHS) requirements through safe work practices in a plumbing and services work environment.

The unit requires the performance of work in a safe manner through awareness of risks, work requirements and the planning and performance of safe work practices with concern for personal safety and the safety of others.

It includes the initial response to workplace emergencies; the safe use of electricity; the identification of hazardous materials, including asbestos; and compliance with legislated work safety practices.

Application of the Unit

This unit of competency supports safe work practices for the plumbing and services industry.

Site location for work application may be either domestic or commercial and may be a new work site or an existing structure or fitting being renovated, extended, restored or maintained. It could also be conducted in an on or off-site workshop or at a customer's premises.

The unit does not cover the removal of asbestos, which is a licensed activity.

Licensing/Regulatory Information

In some jurisdictions, this unit of competency may form part of accreditation, licensing, legislative, regulatory or certification requirements.

Pre-Requisites

Nil

Employability Skills Information

This unit contains employability skills.

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Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.

Elements and Performance Criteria

1	Participate in workplace induction.	1.1	***Workplace induction*** is received.
		1.2	Location of emergency equipment is identified.
		1.3	Current workplace emergency and evacuation procedures are identified.
		1.4	Identify safe working conditions with employer.
		1.5	Identify employee and employer rights and responsibilities regarding safe working conditions.
2	Assess risks.	2.1	Hazards in the work area are identified, assessed and reported to designated personnel.
		2.2	WHS issues and risks in the work area are identified, assessed and reported to designated personnel.
		2.3	***Safe work practices***, procedures and instructions are followed.
		2.4	WHS, hazard, accident or incident reports are completed according to workplace procedures and ***statutory and regulatory authorities*** and legislation.
3	Identify hazards and hazardous materials on work site.	3.1	Hazardous materials on a work site are identified, secured and tagged using appropriate signs and symbols; and if appropriate, handled and used according to company and legislated procedures.
		3.2	Measures for controlling risks and construction hazards

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			are applied effectively and immediately.
		3.3	***Asbestos-containing materials (ACM) are identified*** on a work site ***and reported*** to designated personnel.
4	Plan and prepare for safe work practices.	4.1	Quality assurance requirements of company operations and safe work practices are identified and adhered to.
		4.2	Personal protective equipment (PPE) is selected, correctly fitted and used according to the requirements of the job.
		4.3	Tools and equipment are selected consistent with safe work practice requirements, checked for serviceability, and any faults are reported to supervisor.
		4.4	Required barricades, hoardings and signage are determined and erected at job location.
		4.5	Material safety data sheets (MSDS) are identified and applied.
		4.6	***Sustainability principles and concepts*** are observed when preparing for and undertaking work process.
5	Use safe work practices to carry out work.	5.1	Work is carried out safely and according to state or territory statutory requirements and company policy.
		5.2	***Safety hazards*** and common workplace accidents and incidents are identified in the course of work and reported according to policy.
		5.3	Industry, site and personal safety rights and responsibilities are applied.
		5.4	Prohibited tools and equipment in areas with identified asbestos are identified and isolated.
		5.5	Firefighting equipment is selected and used according to type of fire and correct operating procedures.
		5.6	Current site emergency and first aid procedures are followed.

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6	Maintain safety of self and others.	6.1	Safety signs, identified in terms of colour and shape, symbols and alarms, are adhered to.
		6.2	Hazardous chemicals and materials are identified, handled and stored, maintaining the safety to self, others and the environment.
		6.3	Incidents are reported according to legislative requirements and workplace procedures.
		6.4	Common causes of accidents in the industry are identified and prevention measures implemented in line with site induction.
		6.5	Site area is maintained to prevent incidents and accidents and protect self and others
7	Use electricity safely.	7.1	Safest supply and route for electrical supply are determined.
		7.2	Leads are supported and placed according to regulations.
		7.3	Power board visual check is conducted.
		7.4	Leads and equipment are checked for tags and visual damage.
		7.5	Electrical hazards are identified and reported.
8	Apply emergency response.	8.1	***Emergencies*** are identified.
		8.2	***Emergency response*** is provided according to company procedures and requirements.
		8.3	Details of actions taken are reported according to company procedures and requirements using appropriate communications.
9	Clean up work site area.	9.1	Work area is cleared and materials disposed of, reused or recycled according to legislation, regulations, codes of practice and job specifications.
		9.2	Tools and equipment are cleaned, checked, maintained and stored according to manufacturer recommendations

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and standard work practices.

9.3 Information is accessed and documentation completed according to workplace requirements.

Required Skills and Knowledge

This section describes the skills and knowledge required for this unit.

Required skills

- communication skills to:
  - complete written reports and other relevant documentation
  - enable clear and direct communication, using questioning to identify and confirm requirements, share information, listen and understand
  - use language and concepts appropriate to cultural differences
  - use and interpret non-verbal communication, such as hand signals
- initiative and enterprise skills to:
  - evaluate safety issues in the workplace and determine appropriate action
  - recognise WHS hazards, including asbestos, and take all opportunities to alleviate safety problems in a variety of construction work sites and environments
- initiative and enterprise skills to identify and report to appropriate personnel any faults in tools or materials
- literacy skills to read and interpret:
  - documentation from a variety of sources
  - MSDS
  - work safety procedures and instructions
- self-management skills to deal calmly and effectively with any potential safety problems and work closely with other team members and supervisors to ensure safe working conditions are maintained
- teamwork skills to work with others to action tasks and relate to people from a range of cultural and ethnic backgrounds and with varying physical and mental abilities
- technology skills to:
  - access and understand site-specific instructions in a variety of media
  - use mobile communication technology

Required knowledge

- asbestos management code relating to prevention of exposure
- job safety analysis (JSA) and safe work method statements (SWMS)

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- manual handling techniques
- MSDS
- relevant legislation, regulations and workplace requirements relating to WHS, including hazard reduction and personal safety
- requirements for working in confined spaces and at height, including on rooves
- tools and equipment prohibited from being used near identified ACM
- risk assessment
- safe work practices in normal working environment
- types, possible location and risks of ACM, including serpentine and amphobile groups and their use in common building materials
- workplace and equipment safety requirements
- workplace hazards and their precautions and reduction
- workplace response to emergencies

Evidence Guide

The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.

Overview of assessment	This unit of competency could be assessed in the workplace or a close simulation of the workplace environment providing that simulated or project-based assessment techniques fully replicate plumbing and services workplace conditions, materials, activities, responsibilities and procedures.
Critical aspects for assessment and evidence required to demonstrate competency in this unit	A person who demonstrates competency in this unit must be able to provide evidence of the ability to: • locate, interpret and apply relevant information, standards and specifications for applying safe work practices in the workplace • apply safety requirements throughout the performance of work sequences, including electrical requirements and personal protective clothing and equipment • apply sustainability principles and concepts • undertake site and workplace induction • correctly identify the location of ACM • understand and apply policies and procedures for reporting presence of ACM to designated personnel • assess workplace risks and interpret and apply safe work practices

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- understand workplace requirements for emergency response, including evacuation procedures
- correctly locate and identify workplace firefighting and other safety equipment and appliances
- correctly select and use appropriate processes, tools and equipment
- safely complete all work to specification
- comply with regulations, standards and workplace instructions, procedures and processes, including reporting and documentation
- communicate and work effectively and safely with others.

Context of and specific resources for assessment

This competency is to be assessed using standard and authorised work practices, safety requirements and environmental constraints.

Assessment of essential underpinning knowledge will usually be conducted in an off-site context.

Assessment is to comply with relevant regulatory or Australian standards' requirements.

Resource implications for assessment include:

- an induction procedure and requirement
- realistic tasks or simulated tasks covering the minimum task requirements
- relevant specifications and work instructions
- tools and equipment appropriate to applying safe work practices
- support materials appropriate to activity
- workplace instructions relating to safe work practices and addressing hazards and emergencies
- material safety data sheets
- research resources, including industry-related systems information.

Reasonable adjustments for people with disabilities must be made to assessment processes where required. This could include access to modified equipment and other physical resources, and the provision of appropriate assessment support.

Method of assessment

Assessment methods must:

- satisfy the endorsed Assessment Guidelines of the Construction, Plumbing and Services Training Package
- include direct observation of tasks in real or

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simulated work conditions, with questioning to confirm the ability to consistently identify and correctly interpret the essential underpinning knowledge required for practical application
- reinforce the integration of employability skills with workplace tasks and job roles
- confirm that competency is verified and able to be transferred to other circumstances and environments.

Validity and sufficiency of evidence requires that:

- competency will need to be demonstrated over a period of time reflecting the scope of the role and the practical requirements of the workplace
- where the assessment is part of a structured learning experience the evidence collected must relate to a number of performances assessed at different points in time and separated by further learning and practice, with a decision on competency only taken at the point when the assessor has complete confidence in the person's demonstrated ability and applied knowledge
- all assessment that is part of a structured learning experience must include a combination of direct, indirect and supplementary evidence.

Assessment processes and techniques should as far as is practical take into account the language, literacy and numeracy capacity of the candidate in relation to the competency being assessed.

Supplementary evidence of competency may be obtained from relevant authenticated documentation from third parties, such as existing supervisors, team leaders or specialist training staff.

Range Statement

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.

Workplace induction may include:

- first aid officers and kits

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- personnel competent and/or licensed in the safe handling of asbestos
- site induction work site locations
- specific site WHS issues
- specific site requirements.

Safe work practices are to be according to state and territory legislation and regulations and may include:

- handling of materials
- hazard control procedures and procedures for handling hazardous materials and substances
- PPE prescribed under legislation, regulations and workplace policies and practices
- use of firefighting equipment
- use of first aid equipment
- use of tools and equipment
- workplace environment and safety.

Statutory and regulatory authorities include:

- commonwealth, state or territory, and local authorities administering applicable Acts, regulations and codes of practice.

Identifying and reporting asbestos-containing materials:

- includes recognising common types of ACM that may be found in construction materials and buildings
- covers asbestos rope/fabrics, asbestos cement sheeting, asbestos cement piping and lagging on pipes, bituminous waterproof membrane, millboard, asbestos flues, sheeting under ceramic or vinyl floor or wall tiles in wet areas
- involves reporting ACM to person in control of the workplace as set out in the relevant Asbestos Management Code.

Sustainability principles and concepts:

- cover the social, economic and environmental use of resources to meet current and future needs
- may include:
  - selecting appropriate components and material
  - choosing efficient products
  - using material efficiently
  - storing and disposing of hazardous material to ensure minimal environmental impact.

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Safety hazards may include:

- hazards and risks associated with tools and equipment
- inflammable materials and fire hazards
- lifting practices
- lighting, gases, electricity and water
- spillage, waste and debris
- toxic and hazardous substances
- working at heights
- working in confined spaces.

Emergencies may include:

- accidents
- fires
- injuries
- sudden illness.

Emergency response may include:

- common site signs
- equipment tags
- facility or location signs
- safety barricades and warning signs
- site direction
- traffic signs
- workplace evacuation involving staff and customers.

Unit Sector(s)

Functional area

Unit sector Plumbing and services

Custom Content Section

Not applicable.

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CPCPGS3046A Install LPG systems in caravans, mobile homes and mobile workplaces

Modification History

Prerequisite unit updated

Changes throughout unit, including unit title and critical aspects

Not equivalent to CPCPGS3016A

Unit Descriptor

This unit of competency specifies the outcomes required to determine the requirements for installing and commissioning liquefied petroleum gas (LPG) systems with an operating pressure not exceeding 2.75kPa in caravans, mobile homes and mobile workplaces.

Application of the Unit

Site location for work application may be a purpose-built workshop or customer's premises.

Licensing/Regulatory Information

In some jurisdictions, this unit of competency may form part of accreditation, licensing, legislative, regulatory or certification requirements.

Pre-Requisites

CPCPCM2043A	Carry out WHS requirements

Employability Skills Information

This unit contains employability skills.

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised

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unit of competency.	text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.

Elements and Performance Criteria

1	Identify LPG system requirements.	1.1	Plans, specifications and any special instructions are obtained.
		1.2	***Work health and safety*** (WHS) and ***environmental requirements*** associated with installing and commissioning LPG systems in caravans, mobile homes and mobile workplaces are adhered to throughout the work.
		1.3	***Quality assurance requirements*** for company operations are identified and adhered to.
		1.4	Gas load and design requirements are determined from plans, specifications, and job drawing or workplace instructions.
		1.5	System capacity is calculated to ensure adequacy for the required load and compliance with relevant Australian standards and installation requirements.
		1.6	Appropriate regulator and piping are identified in terms of size, connection sizes and capacity, according to relevant Australian standards and installation requirements.
		1.7	Location of cylinders, appliances and piping set out is identified according to job requirements and in compliance with relevant Australian standards and installation requirements.
		1.8	Quantity of piping, components and fittings is estimated in compliance with relevant Australian standards and installation requirements.
2	Prepare for installation.	2.1	***Materials***, equipment, appliances and cylinders are ordered and checked for compliance with docket and order form, and for acceptable condition.

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		2.2	Appropriate ***tools and equipment*** for installing and commissioning ***LPG systems*** in caravans, mobile homes and mobile workplaces, including personal protective equipment, are identified and selected.
		2.3	Work is planned in conjunction with others involved in or affected by the work.
		2.4	Work area and materials are prepared to support efficient installation of the system.
		2.5	***Sustainability principles and concepts*** are observed when preparing for and undertaking work process.
3	Install LPG system, including flue and ventilation.	3.1	Cylinders, regulators, associated pipework, appliances and fixings are installed in compliance with manufacturer requirements, relevant Australian standards and installation requirements.
		3.2	Ventilation requirements are determined and installed according to relevant Australian standards.
4	Test and commission LPG system.	4.1	Appropriate test equipment is selected.
		4.2	System is tested according to relevant Australian standards and manufacturer requirements.
		4.3	System is commissioned according to relevant Australian standards and manufacturer requirements.
		4.4	Test data is recorded in format required by regulatory and installation requirements.
		4.5	Compliance plates and signage are located and fitted according to ***statutory and regulatory authorities'*** requirements, relevant Australian standards and installation requirements.
5	Clean up.	5.1	Work area is cleared and materials disposed of, reused or recycled according to legislation, regulations, codes of practice and job specification.
		5.2	Tools and equipment are cleaned, checked, maintained and stored according to manufacturer recommendations

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and workplace procedures.

5.3 ***Information*** is accessed and documentation completed according to statutory requirements.

Required Skills and Knowledge

This section describes the skills and knowledge required for this unit.

Required skills

- communication skills to:
  - access information
  - determine requirements
  - enable clear and direct communication, using questioning to identify and confirm requirements, share information, listen and understand
  - follow instructions
  - inform relevant authorities and supervisors of completion of job
  - use language and concepts appropriate to cultural differences
  - use and interpret non-verbal communication, such as hand signals
- initiative and enterprise skills to identify and report to appropriate personnel any faults in tools, equipment or materials
- literacy skills to:
  - complete workplace documentation
  - read and interpret:
    - documentation from a variety of sources
    - plans and specifications
  - record data in writing
- numeracy skills to apply measurements and calculations
- planning and organising skills to:
  - plan and set out work
  - plan work with others
- teamwork skills to work with others to action tasks and relate to people from a range of cultural and ethnic backgrounds and with varying physical and mental abilities
- technical skills to determine requirements, and install and commission LPG systems
- technology skills to:
  - access and understand site-specific instructions in a variety of media
  - use mobile communication technology

Required knowledge

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- electrical safety and requisite precautions
- how to access relevant information, including codes and technical standards
- job safety analysis (JSA) and safe work method statements (SWMS)
- process for determining material requirements
- procedures for installing and commissioning gas systems in caravans, mobile homes and mobile workplaces
- properties of gas, gas safety, combustion principles, gas pressures, and cylinder installation and ventilation requirements
- relevant statutory requirements related to installing LPG systems
- SI system of measurements
- workplace and equipment safety requirements

Evidence Guide

The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.

Overview of assessment

This unit of competency could be assessed in the workplace or a close simulation of the workplace environment providing that simulated or project-based assessment techniques fully replicate plumbing and services workplace conditions, materials, activities, responsibilities and procedures.

Critical aspects for assessment and evidence required to demonstrate competency in this unit

A person who demonstrates competency in this unit must be able to provide evidence of:

- locating, interpreting and applying relevant information, standards and specifications to determine requirements, and install and commission LPG systems in caravans, mobile homes and mobile workplaces
- applying safety requirements throughout the work sequence, including electrical safety requirements and the use of personal protective clothing and equipment
- given the plans and specifications for a project, determining the requirements for, installing, testing and commissioning LPG systems in either a caravan, mobile home or mobile workplace by determining the gas load, storage capacity and ventilation requirements for two gas appliances, ensuring:
  - application of sustainability principles and concepts throughout the installation process
  - correct identification of location, design and details of

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proposed installation
- correct selection and use of appropriate processes, tools and equipment
- completing all work to specification
- compliance with regulations, standards and organisational quality procedures and processes
- communicating and working effectively and safely with others.

Context of and specific resources for assessment

This competency is to be assessed using standard and authorised work practices, safety requirements and environmental constraints.

Assessment of essential underpinning knowledge will usually be conducted in an off-site context.

Assessment is to comply with relevant regulatory or Australian standards' requirements.

Resource implications for assessment include:

- an induction procedure and requirement
- realistic tasks or simulated tasks covering the minimum task requirements
- relevant specifications and work instructions
- tools and equipment appropriate to applying safe work practices
- support materials appropriate to activity
- workplace instructions relating to safe work practices and addressing hazards and emergencies
- material safety data sheets
- research resources, including industry-related systems information.

Reasonable adjustments for people with disabilities must be made to assessment processes where required. This could include access to modified equipment and other physical resources, and the provision of appropriate assessment support.

Method of assessment

Assessment methods must:

- satisfy the endorsed Assessment Guidelines of the Construction, Plumbing and Services Integrated Framework Training Package
- include direct observation of tasks in real or simulated work conditions, with questioning to confirm the ability to consistently identify and correctly interpret the essential underpinning knowledge required for practical application

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- reinforce the integration of employability skills with workplace tasks and job roles
- confirm that competency is verified and able to be transferred to other circumstances and environments.

Validity and sufficiency of evidence requires that:

- competency will need to be demonstrated over a period of time reflecting the scope of the role and the practical requirements of the workplace
- where the assessment is part of a structured learning experience the evidence collected must relate to a number of performances assessed at different points in time and separated by further learning and practice, with a decision on competency only taken at the point when the assessor has complete confidence in the person's demonstrated ability and applied knowledge
- all assessment that is part of a structured learning experience must include a combination of direct, indirect and supplementary evidence.

Assessment processes and techniques should as far as is practical take into account the language, literacy and numeracy capacity of the candidate in relation to the competency being assessed.

Supplementary evidence of competency may be obtained from relevant authenticated documentation from third parties, such as existing supervisors, team leaders or specialist training staff.

Range Statement

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.

Work health and safety is to be according to commonwealth, state and territory legislation and regulations and may include:

- handling of materials
- hazard control
- personal protective clothing and equipment prescribed under legislation, regulations and workplace policies and practices
- safe operating procedures, including recognising and preventing hazards associated with:

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- confined spaces
- electricity
- hazardous materials and substances
- service lines
- surrounding structures and facilities
- trip hazards
- use of tools and equipment
- work site visitors and the public
- working at heights
- working in proximity to others

- use of firefighting equipment
- use of first aid equipment
- workplace environment and safety.

Environmental requirements may include:

- clean-up protection
- waste management.

Quality assurance requirements may include:

- Australian standards
- environment policy
- Environment Protection Authority (EPA)
- internal company quality assurance policy and risk management strategy
- International Standards Organisation
- site safety plan
- workplace operations and procedures.

Materials:

- may include:
  - copper tubing
  - fittings
  - fixing materials
  - flue systems
  - gas cylinders
  - gas-operated appliances
  - gas hose assemblies
  - gas regulators
  - other approved materials
- are to comply with job specifications and appropriate standards for gas installations.

Tools and equipment may include:

- files
- flaring tools
- hacksaws
- hand trolleys
- hoists and jacks

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- lifting and load shifting equipment
- measuring equipment
- power cutting tools
- pressure testing equipment
- silver brazing equipment
- spanners
- wrenches.

***LPG system* may include:**

- approved appliances
- cylinders
- flue systems
- piping
- regulators.

Sustainability principles and concepts:

- cover the social, economic and environmental use of resources to meet current and future needs
- may include:
  - selecting appropriate materials
  - efficient use and recycling of material
  - using energy efficient appliances
  - disposing of waste material appropriately.

Statutory and regulatory authorities may include:

- commonwealth, state or territory, and local authorities administering applicable Acts, regulations and codes of practice.

Information may include:

- charts and hand drawings
- plans and sketches
- instructions issued by authorised organisational or external personnel
- job drawings
- manufacturer specifications and instructions
- material safety data sheets (MSDS)
- memos
- organisation work specifications and requirements
- recognised formulas or tables accepted by the regulatory authority
- regulatory and legislative requirements, particularly those pertaining to:
  - WHS and environmental requirements
  - plumbing and/or gasfitting authority regulations
- relevant Australian standards
- safe work procedures relating to determining requirements, and installing and commissioning LPG systems in caravans, mobile homes and mobile workplaces

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- signage
- verbal, written and graphical instructions
- work bulletins
- work schedules, plans and specifications.

Unit Sector(s)

Competency field Gas services

Unit sector Plumbing and services

Custom Content Section

Not applicable.

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FNSORG501 Develop and manage a budget

Modification History

Release	Comments
Release 1	This version first released with FNS Financial Services Training Package Version 1.0.

Application

This unit describes the skills and knowledge required to collect and analyse information and apply sound accounting principles to the development and ongoing management of a budget for a small organisation or section of a large organisation.

It applies to individuals who use a range of specialist and managerial techniques to plan, monitor and control budgetary work.

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

Unit Sector

Organisational skills

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. Plan for and collect information for budget	1.1 Determine and confirm areas for which budget is being prepared with appropriate personnel, and identify, access and analyse data required for development of budget 1.2 Determine budget parameters with estimates based on research, consultation and negotiation with appropriate personnel 1.3 Consult relevant colleagues in budget planning process as required

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ELEMENT	PERFORMANCE CRITERIA
2. Develop budget	2.1 Draft budget based on analysis of all available information in accordance with organisational policy 2.2 Identify and support income and expenditure estimates with reliable information and circulate draft budget for comment
3. Finalise budget and allocate resources	3.1 Provide final budget which incorporates agreed modifications to appropriate personnel 3.2 Inform personnel affected by budget of its limits and goals in their work area and clarify financial management and reporting responsibilities 3.3 Obtain agreement to budget priorities and allocate resources
4. Monitor and control budget	4.1 Check actual income and expenditure against budget at regular intervals, and prepare and present budget reports to appropriate personnel 4.2 Identify and respond to deviations, take appropriate action and advise relevant personnel on budget status
5. Complete financial and statistical reports	5.1 Complete all required financial and statistical reports accurately within designated timelines 5.2 Make appropriate recommendations about future financial planning 5.3 Provide clearly presented and accurate reports to appropriate personnel

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
Reading	1.1, 1.2, 2.1, 2.2, 4.1, 4.2	• Extracts, analyses and monitors complex textual information from a range of sources to determine relevance, accuracy and compliance with organisational policy
Writing	1.1, 1.3, 2.1, 2.2, 3.1, 3.2, 4.2, 5.1, 5.2, 5.3	• Analyses and compiles numerical data and text information to convey specific information and recommendations accurately and effectively to others using clear and detailed language

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		• Demonstrates effective control of text types required by financial and statistical report conventions and documentation
Oral Communication	1.1 -1.3, 3.2, 3.3, 4.1, 4.2, 5.2	• Participates in verbal exchanges of information, demonstrating control of a range of oral techniques to elicit the views and opinions of others and confirm understanding • Clearly articulates requirements and outcomes using language, tone and pace appropriate to the audience and environment
Numeracy	1.1, 1.2, 2.1, 2.2, 3.1, 4.1, 4.2, 5.1, 5.3	• Interprets, analyses and uses numerically expressed data to effectively prepare, monitor, amend and present accurate budgetary information
Navigate the world of work	2.1, 3.2, 5.1	• Works independently and collectively in making decisions about budge requirements in accordance with organisational policy
Interact with others	1.1-1.3, 2.2, 3.1, 3.2, 4.1, 5.3	• Selects and uses appropriate conventions and protocols to gain and provide relevant budgetary information • Plays a lead role in situations requiring effective collaborative skills, demonstrating high level negotiation skills and ability to gather information through consultation
Get the work done	1.1, 1.2, 2.1, 3.3, 4.1, 4.2, 5.1, 5.2	• Accepts responsibility for planning and sequencing complex tasks and workload • Applies systematic and analytical decision-making processes to make recommendations in complex and non-routine situations • Uses digital technologies to access, extract and share relevant information to achieve required outcomes

Unit Mapping Information

Code and title current version	**Code and title previous version**	**Comments**	**Equivalence status**
FNSORG501 Develop and manage a budget	FNSORG501A Develop and manage a budget	Updated to meet Standards for Training Packages	Equivalent unit

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Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=c7200cc8-0566-4f04-b76f-e89fd6f102fe

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Assessment Requirements for FNSORG501 Develop and manage a budget

Modification History

Release	Comments
Release 1	This version first released with FNS Financial Services Training Package Version 1.0.

Performance Evidence

Evidence of the ability to:

- collect and accurately interpret relevant data to develop and finalise a budget
- consult effectively and negotiate outcomes with others on budgetary issues
- accurately complete financial and statistical reports related to budgeting.

Note: If a specific volume or frequency is not stated, then evidence must be provided at least once.

Knowledge Evidence

To complete the evidence requirements safely and effectively, the individual must:

- define basic accounting and financial services industry terminology
- outline types of data required to develop the budget
- explain accounting techniques relevant to budget preparation and maintenance
- describe budgeting techniques and tools
- describe organisational and industry policy and procedures related to budget development and management.

Assessment Conditions

Assessment must be conducted in a safe environment where evidence gathered demonstrates consistent performance of typical activities experienced in the organisational skills field of work and include access to:

- a range of common office equipment, technology, software and consumables
- an integrated financial software system and data.

Assessors must satisfy NVR/AQTF assessor requirements.

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Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=c7200cc8-0566-4f04-b76f-e89fd6f102fe

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FWPCOT2238 Cut materials with a hand-held chainsaw

Modification History

Release	Comment
1	Replaces equivalent unit FPICOT2238A Cut materials with a hand-held chainsaw, 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 prepare and cut materials with a hand-held chainsaw. This unit includes basic operator maintenance checks. More comprehensive servicing and maintenance procedures are covered in FWPCOT2237 Maintain chainsaws.

The unit applies to those who cut materials with a hand-held chainsaw in a variety of work settings including a construction, saw mill, forest products factory, timber retail yard or horticultural environment.

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

Pre-requisite Unit

Nil

Unit Sector

Sawmilling and Processing

Timber Merchandising

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.*

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ELEMENTS	PERFORMANCE CRITERIA
1. Prepare for operation	1.1 Review work order and clarify with appropriate personnel. 1.2 Select equipment appropriate to work requirements and check for operational effectiveness. 1.3 Prepare, check and clear work area, ready for hand-held chainsaw operations. 1.4 Carry out pre-start checks on chainsaw in line with site requirements. 1.5 Establish and maintain communication with others in work area to ensure safety.
2. Cut material	2.1 Visually assess materials to be cut for defects that may present unsafe work conditions, and review cutting plan. 2.2 Place cutting supports to ensure a stable base. 2.3 Cut material within site standard tolerances for length and angle relative to centre line. 2.4 Use cutting techniques to industry standard lengths, maximising volume and quality of recovery material. 2.5 Operate chainsaw effectively, in line with manufacturer's recommendations. 2.6 Clear and dispose of debris in line with site procedures and environmental requirements. 2.7 Complete production and quality reports. 2.8 Identify processing problems and equipment faults and report to appropriate personnel.
3. Conduct chainsaw maintenance	3.1 Clean, maintain and store chainsaw in line with manufacturer's recommendations and site procedures. 3.2 Identify blunt or damaged saws and replace or sharpen, in line with site procedures and manufacturer's recommendations. 3.3 Record and report maintenance activities to appropriate personnel.

Foundation Skills

This section describes those core and employment skills that are essential to performance and are not explicit in the performance criteria.	
Problem solving skills	• identify defects in materials and problems with equipment, and rectify.

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to:	

Range of Conditions

Not Applicable

Unit Mapping Information

FPICOT2206A Cut materials with a hand-held chainsaw

Links

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

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Assessment Requirements for FWPCOT2238 Cut materials with a hand-held chainsaw

Modification History

Release	Comment
1	Replaces equivalent FPICOT2238A Cut materials with a hand-held chainsaw, 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. 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'.

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:

- safely and efficiently use a hand-held chainsaw to cut materials
- follow organisational policies and procedures relevant to operating a hand-held chainsaw
- use appropriate methods to cut materials with a hand-held chainsaw
- carry out start-up and lock out procedures for a hand-held chainsaw
- identify defects and problems with chainsaw operations
- identify blunt or damaged saws
- effectively maximise volume and quality recovery
- communicate effectively with others at the work site
- carry out routine maintenance on a hand-held chainsaw.

Knowledge Evidence

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

- workplace requirements and standards for operating a hand-held chainsaw
- environmental protection requirements and safe disposal of waste material
- operational procedures and checks including start-up and shut-down procedures
- equipment processes, technical capability and limitations of a hand-held chainsaw
- established communication channels and protocols to maintain safety

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- processes for managing risks and hazards associated with chainsaw operations
- knowledge of defects in timber that can effect processing and cause risk
- workplace health and safety requirements, fire protocols and emergency evacuation procedures
- procedures for recording and reporting workplace records and information.

Assessment Conditions

The following resources must be made available:

- a hand-held chainsaw
- material to be cut
- personal protective equipment required for cutting materials with a hand held chain saw
- work order, workplace requirements and site standards for cutting materials with a hand-held chainsaw.

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

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HLTAID003 Provide first aid

Modification History

Release	Comments
Release 6	Updated: • assessor requirements statement • foundation skills lead in statement • licensing statement • modification history to reflect 2012 standards Equivalent outcome.
Release 5	Updated mapping information. Changes to assessment requirements. Equivalent outcome.
Release 4	Updated mapping information. Equivalent outcome.
Release 3	Updated mapping information.
Release 2	Minor corrections to formatting to improve readability. Equivalent competency outcome.
Release 1	This version was released in *HLT Health Training Package release 1.0* and meets the requirements of the 2012 Standards for Training Packages. Significant changes to elements and performance criteria, changes to scope of unit. New evidence requirements for assessment. Removal of prerequisite unit.

Application

This unit describes the skills and knowledge required to provide a first aid response to a casualty. The unit applies to all workers 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.

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Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
Elements define the essential outcomes.	*Performance criteria specify the level of performance needed to demonstrate achievement of the element.*
1. Respond to an emergency situation	1.1 Recognise an emergency situation 1.2 Identify, assess and manage immediate hazards to health and safety of self and others 1.3 Assess the casualty and recognise the need for first aid response 1.4 Assess the situation and seek assistance from emergency response services
2. Apply appropriate first aid procedures	2.1 Perform cardiopulmonary resuscitation (CPR) in accordance with Australian Resuscitation Council (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 manufacturer’s 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 response services 3.2 Report details of incident to workplace supervisor as appropriate 3.3 Maintain confidentiality of records and information in line with statutory and/or organisational policies

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ELEMENT	PERFORMANCE CRITERIA
Elements define the essential outcomes.	*Performance criteria specify the level of performance needed to demonstrate achievement of the element.*
4. Evaluate the incident and own performance	4.1 Recognise the possible psychological impacts on self and other rescuers involved in critical incidents 4.2 Participate in debriefing to address individual needs

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

No equivalent unit.

Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=ced1390f-48d9-4ab0-bd50-b015e5485705

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Assessment Requirements for HLTAID003 Provide first aid

Modification History

Release	Comments
Release 6	Updated: • assessor requirements statement • foundation skills lead in statement • licensing statement • modification history to reflect 2012 standards Equivalent outcome.
Release 5	Updated mapping information. Changes to assessment requirements. Equivalent outcome.
Release 4	Updated mapping information. Equivalent outcome.
Release 3	Updated mapping information.
Release 2	Minor corrections to formatting to improve readability. Equivalent competency outcome.
Release 1	This version was released in *HLT Health Training Package release 1.0* and meets the requirements of the 2012 Standards for Training Packages. Significant changes to elements and performance criteria, changes to scope of unit. New evidence requirements for assessment. Removal of prerequisite unit.

Performance Evidence

e candidate must show evidence of the ability to complete tasks outlined in elements and performance criteria of this unit, manage tasks and manage contingencies in the context of the job role.

There must be evidence that the candidate has completed the following tasks in line with state/territory regulations, first aid codes of practice, Australian Resuscitation Council (ARC) guidelines and workplace procedures:

- Followed DRSABCD in line with ARC guidelines, including:

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  - performed 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
  - performed 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
  - responded appropriately in the event of regurgitation or vomiting
  - managed the unconscious breathing casualty
  - followed single rescue procedure, including the demonstration of a rotation of operators with minimal interruptions to compressions
  - followed the prompts of an Automated External Defibrillator (AED)
- Responded to at least two simulated first aid scenarios contextualised to the candidate's workplace/community setting, including:
  - conducted a visual and verbal assessment of the casualty
  - demonstrated safe manual handling techniques
  - post-incident debrief and evaluation
  - provided an accurate verbal or written report of the incident
- Applied first aid procedures for the following:
  - allergic reaction
  - anaphylaxis
  - bleeding control
  - choking and airway obstruction
  - envenomation, using pressure immobilisation
  - fractures, sprains and strains, using arm slings, roller bandages or other appropriate immobilisation techniques
  - respiratory distress, including asthma
  - shock

Knowledge Evidence

The candidate must be able to demonstrate essential knowledge required to effectively complete tasks outlined in elements and performance criteria of this unit, manage tasks and manage contingencies in the context of the work role. This includes knowledge of:

- State/Territory regulations, first aid codes of practice and workplace procedures including:
  - ARC Guidelines relevant to provision of CPR and first aid
  - safe work practices to minimise risks and potential hazards
  - infection control principles and procedures, including use of standard precautions
  - requirements for currency of skill and knowledge
- legal, workplace and community considerations including:
  - awareness of potential need for stress-management techniques and available support following an emergency situation
  - duty of care requirements

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  - respectful behaviour towards a casualty
  - own skills and limitations
  - consent
  - privacy and confidentiality requirements
  - importance of debriefing
- considerations when providing first aid including:
  - airway obstruction due to body position
  - appropriate duration and cessation of CPR
  - appropriate use of an AED
  - chain of survival
  - standard precautions
  - how to conduct a visual and verbal assessment of the casualty
- principles and procedures for first aid management of the following scenarios:
  - abdominal injuries
  - allergic reaction
  - anaphylaxis
  - basic care of a wound
  - bleeding control
  - burns
  - cardiac conditions, including chest pain
  - choking and airway obstruction
  - crush injuries
  - diabetes
  - dislocations
  - drowning
  - envenomation
  - environmental impact, including hypothermia, hyperthermia, dehydration and heat stroke
  - eye and ear injuries
  - fractures
  - febrile convulsions
  - head, neck and spinal injuries
  - minor skin injuries
  - needle stick injuries
  - poisoning and toxic substances
  - respiratory distress, including asthma
  - seizures, including epilepsy
  - shock
  - soft tissue injuries, including strains and, sprains
  - stroke

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  - unconsciousness
- basic anatomy and physiology relating to:
  - how to recognise a person is not breathing normally
  - chest
  - response/consciousness
  - upper airway and effect of positional change
  - considerations in provision of first aid for specified conditions

Assessment Conditions

Skills must be demonstrated working individually in an environment that provides realistic in-depth, industry-validated scenarios and simulations to assess candidates' skills and knowledge.

Assessment resources must include:

- adult and infant resuscitation manikins in line with ARC Guidelines for the purpose of assessment of CPR procedures
- adrenaline auto-injector training device
- AED training device
- placebo bronchodilator and spacer device
- roller bandages
- triangular bandages
- workplace First Aid kit
- workplace injury, trauma and/or illness record, or other appropriate workplace incident report form for written reports
- wound dressings

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.

Assessor requirements

Assessors must satisfy the Standards for Registered Training Organisations (RTOs) 2015/AQTF mandatory competency 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

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MEM03001B Perform manual production assembly

Modification History

Not Applicable

Unit Descriptor

Unit descriptor	This unit covers assembling components and/or sub-assemblies in a production environment and testing the components and/or sub-assemblies to ensure compliance with specifications.

Application of the Unit

Application of the unit	This unit applies to production-orientated assembly operations that are essentially manual in nature and do not require complex adjustments. This unit should not be selected when Unit MEM18055B (Dismantle, replace and assemble engineering components) has already been selected. Where the selection and use of tools is required as part of the assembly process, see Unit MEM18001C (Use hand tools) and Unit MEM18002B (Use power tools/hand held operations) as appropriate. **Band**: **A** **Unit Weight**: **4**

Licensing/Regulatory Information

Not Applicable

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Pre-Requisites

Prerequisite units		

Employability Skills Information

Employability skills	This unit contains employability skills.

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.

Elements and Performance Criteria

ELEMENT	**PERFORMANCE CRITERIA**
1. Read and understand job sheets	1.1. Job sheets and instructions are understood and followed correctly.
2. Select assembly equipment and components	2.1. Assembly equipment is selected according to instructions or job sheets and used to standard operating procedures. 2.2. Components/sub-assemblies are obtained and arranged for assembly. 2.3. Equipment/tools are used in a safe manner.
3. Assemble components	3.1. Assembly is produced following correct sequence of operations, using selected equipment to standard operating procedures. 3.2. Production data is recorded/input to standard

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ELEMENT	PERFORMANCE CRITERIA
	operating procedures.
4. Perform tests	4.1. Assembly is tested/checked for compliance to job sheet requirements, following standard operating procedures as required.
5. Protect assembly from damage	5.1. Components and/or assemblies are handled and stored safely, in a manner least likely to cause damage.

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE
This section describes the skills and knowledge required for this unit.
Required skills
Look for evidence that confirms skills in: • following job instructions and standard operating procedures • selecting and using assembly tools, components and sub-assemblies • entering routine and familiar information onto proformas and other standard workplace forms • following oral instruction
Required knowledge
Look for evidence that confirms knowledge of: • application and use of assembly tools and equipment • sequence in which the assemblies are to be performed • storage location of the component/sub-assemblies • required tests and checks • required action for non-conformance • potential damage through the use of inappropriate handling and/or unsafe storage procedures • use and application of personal protective equipment • safe work practices and procedures • hazards and control measures associated with manual production assembly

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Evidence Guide

EVIDENCE GUIDE	
The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.	
Overview of assessment	A person who demonstrates competency in this unit must be able to assemble components and/or sub-assemblies in a production environment and test the components and/or sub-assemblies to ensure compliance with specifications.
Critical aspects for assessment and evidence required to demonstrate competency in this unit	Assessors must be satisfied that the candidate can competently and consistently perform all elements of the unit as specified by the criteria, including required knowledge, and be capable of applying the competency in new and different situations and contexts.
Context of and specific resources for assessment	This unit may be assessed on the job, off the job or a combination of both on and off the job. Where assessment occurs off the job, that is the candidate is not in productive work, then an appropriate simulation must be used where the range of conditions reflects realistic workplace situations. The competencies covered by this unit would be demonstrated by an individual working alone or as part of a team. The assessment environment should not disadvantage the candidate. This unit could be assessed in conjunction with any other units addressing the safety, quality, communication, materials handling, recording and reporting associated with performing manual production assembly or other units requiring the exercise of the skills and knowledge covered by this unit.
Method of assessment	Assessors should gather a range of evidence that is valid, sufficient, current and authentic. Evidence can be gathered through a variety of ways including direct observation, supervisor's reports, project work, samples and questioning. Questioning techniques should not require language, literacy and numeracy skills beyond those required in this unit of competency. The candidate must have access to all tools, equipment, materials and documentation required. The candidate must be permitted to refer to any relevant workplace procedures, product and manufacturing specifications, codes, standards, manuals and reference materials.

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EVIDENCE GUIDE	
Guidance information for assessment	

Range Statement

RANGE STATEMENT	
The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.	
Components/sub-assemblies	Parts that make up the sub-assembly and components
Recorded/input	By means of production schedules, job sheets, checklists
Tested/checked	Carried out according to specification of assembled product

Unit Sector(s)

Unit sector	

Co-requisite units

Co-requisite units		

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Competency field

Competency field	Assembly

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MEM03006B Set assembly stations

Modification History

Not Applicable

Unit Descriptor

Unit descriptor	This unit covers setting up, adjusting and testing assembly stations according to defined procedures.

Application of the Unit

Application of the unit	This unit applies to setting a range of assembly stations. It also includes routine maintenance of the equipment. Assembly stations may be used for a range of operations and processes. For setting automated assembly processes, Unit MEM07040A (Set multistage integrated processes) should be selected. Machine setting skills are covered by Unit MEM07003B (Perform machine setting (routine) and Unit MEM07004B (Perform machine setting (complex). Where measurement skills are required, then Unit MEM12023A (Perform engineering measurements) should also be considered. **Band**: **A** **Unit Weight**: **2**

Licensing/Regulatory Information

Not Applicable

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Pre-Requisites

Prerequisite units		
Path 1	MEM03001B	Perform manual production assembly
	MEM18001C	Use hand tools
Path 2	MEM03003B	Perform sheet and plate assembly
	MEM18001C	Use hand tools
	MEM18002B	Use power tools/hand held operations
Path 3	MEM03004B	Perform electronic/electrical assembly (production)
	MEM18001C	Use hand tools

Employability Skills Information

Employability skills	This unit contains employability skills.

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.

Elements and Performance Criteria

ELEMENT	**PERFORMANCE CRITERIA**
1. Identify job	1.1. Setting requirements are correctly identified from

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ELEMENT	PERFORMANCE CRITERIA
requirements	job sheets/instructions.
2. Select and use a range of hand tools and equipment	2.1. Hand tools and equipment for setting assembly stations are used in a safe manner, according to instructions, standard operating procedures and any legislative requirements.
3. Set assembly stations	3.1. Assembly stations are set up for a range of processes and operations according to defined procedures. 3.2. Safe work practices are observed and implemented. 3.3. Assembly stations are adjusted to specifications and operational requirements. 3.4. Assembly stations are tested for correct operation.
4. Maintain equipment	4.1. Routine maintenance is carried out to standard operating procedures. 4.2. Worn or damaged components are identified and changed.

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

Look for evidence that confirms skills in:

- reading and interpreting routine information on written job instructions, specifications and standard operating procedures. May include drawings for setting assembly stations
- following oral instructions
- testing and checking assembly station and outputs
- identifying worn and/or damaged components

Required knowledge

Look for evidence that confirms knowledge of:

- procedures to be followed in setting up assembly stations
- safety hazards associated with the assembly station and/or its setting up
- specifications applicable to the assembly station
- effect of various adjustments that can be made to the assembly station

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REQUIRED SKILLS AND KNOWLEDGE
• routine maintenance requirements • effect of worn or damaged components on the operational requirements and specifications of the assembly station • use and application of personal protective equipment • safe work practices and procedures

Evidence Guide

EVIDENCE GUIDE	
The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.	
Overview of assessment	A person who demonstrates competency in this unit must be able to set, adjust and test assembly stations. Competency in this unit cannot be claimed until all prerequisites have been satisfied.
Critical aspects for assessment and evidence required to demonstrate competency in this unit	Assessors must be satisfied that the candidate can competently and consistently perform all elements of the unit as specified by the criteria, including required knowledge, and be capable of applying the competency in new and different situations and contexts.
Context of and specific resources for assessment	This unit may be assessed on the job, off the job or a combination of both on and off the job. Where assessment occurs off the job, that is the candidate is not in productive work, then an appropriate simulation must be used where the range of conditions reflects realistic workplace situations. The competencies covered by this unit would be demonstrated by an individual working alone or as part of a team. The assessment environment should not disadvantage the candidate. This unit could be assessed in conjunction with any other units addressing the safety, quality, communication materials handling, recording and reporting associated with setting, adjusting and testing assembly stations or other units requiring the exercise of the skills and knowledge covered by this unit.

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EVIDENCE GUIDE	
Method of assessment	Assessors should gather a range of evidence that is valid, sufficient, current and authentic. Evidence can be gathered through a variety of ways including direct observation, supervisor's reports, project work, samples and questioning. Questioning techniques should not require language, literacy and numeracy skills beyond those required in this unit of competency. The candidate must have access to all tools, equipment, materials and documentation required. The candidate must be permitted to refer to any relevant workplace procedures, product and manufacturing specifications, codes, standards, manuals and reference materials.
Guidance information for assessment	

Range Statement

RANGE STATEMENT	
The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.	
Job sheets/instructions	Verbal and written job instructions, specifications, standard operating procedures and assembly drawings within the scope of this unit
Assembly station	May be used for operations such as riveting, pressing, screwing, tensioning etc. and processes such as testing, gluing, identification, numbering or simple hot stamping etc.
Set up	Ensuring that appropriate jigs, fixtures, die sets, stores and tooling etc. are in place as required to meet the production order or schedules
Processes and operations	Riveting, pressing, screwing, tensioning, testing, gluing, identification, numbering or simple hot

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RANGE STATEMENT	
	stamping of components and assemblies

Unit Sector(s)

Unit sector	

Co-requisite units

Co-requisite units		

Competency field

Competency field	Assembly

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MEM05005B Carry out mechanical cutting

Modification History

Not Applicable

Unit Descriptor

Unit descriptor	This unit covers setting up and operating a range of mechanical cutting and holing equipment.

Application of the Unit

Application of the unit	This unit applies to sawing, shearing, cropping and/or holing and includes setting up and operating a range of equipment. Examples of machines that could be covered include guillotines, croppers, cold saws, band saws, automatic saws etc. Typical applications of this unit may include cutting for manufacture, production cutting and cutting of materials selected from stores in a maintenance environment. This unit does not cover hand or hand held power tools used for cutting e.g. circular saws, nibblers and side grinder. These skills are covered by Unit MEM18001C (Use hand tools) and Unit MEM18002B (Use power tools/hand held operations). This unit does not include the skills required for operational maintenance of the equipment used; these skills are covered by Unit MEM07001B (Perform operational maintenance of machines/equipment). For repair and welding of band saw blades where blade repair unit is not attached to the machine, refer to Unit MEM05013C (Perform manual production welding). **Band**: **A** **Unit Weight**: **2**

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Licensing/Regulatory Information

Not Applicable

Pre-Requisites

Prerequisite units		
Path 1	MEM12023A	Perform engineering measurements
	MEM18001C	Use hand tools

Employability Skills Information

Employability skills	This unit contains employability skills.

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.

Elements and Performance Criteria

ELEMENT	**PERFORMANCE CRITERIA**
1. Determine job requirements	1.1. Job requirements and specifications are determined from job sheets and/or instructions. 1.2. Appropriate method/machine is selected to meet specifications. 1.3. Machine is loaded and adjusted for operation consistent with standard operating procedures.
2. Select/set up machine tooling	2.1. Tooling is selected to match job requirements. 2.2. Tooling is correctly installed using standard

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ELEMENT	PERFORMANCE CRITERIA
	operating procedures. 2.3. Machine is set up and adjusted using standard operating procedures.
3. Operate mechanical cutting machine	3.1. Appropriate stops and guards are set and adjusted as required. 3.2. Material is secured and correctly positioned using measuring equipment as necessary. 3.3. Machine is started and stopped safely to standard operating procedures. 3.4. Machine is operated to cut/hole material to specifications using standard operating procedures.
4. Check material for conformance to specification	4.1. Material is checked against specification. Machine and/or tooling is adjusted as required and in process adjustments carried out as necessary. 4.2. Material is cut and/or holed to within workplace tolerances. 4.3. Material is used in most economical way. 4.4. Codes and standards are observed.

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE
This section describes the skills and knowledge required for this unit.
Required skills
Look for evidence that confirms skills in: • loading and adjusting cutting machines • selecting machines and tooling • installing cutting tool • setting up and adjusting cutting machine • securing and correctly positioning materials • cutting and holing materials • applying relevant codes and standards • reading and interpreting routine information on written job instructions, specifications and standard operating procedures • following oral instruction • measuring materials to specified workplace tolerances and within the machine

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REQUIRED SKILLS AND KNOWLEDGE
range • clarifying routine task-related information
Required knowledge
Look for evidence that confirms knowledge of: • the characteristics of cutting methods and machines • effect of materials on the machine tooling, tooling defects and adjustments • effect of adjustments on the dimensions of the cut material • applicable tolerances • methods of marking out materials to ensure minimum wastage • any applicable industry standards, national/Australian standards, NOHSC guides, State/Territory regulatory codes of practice/standard • use and application of personal protective equipment for mechanical cutting • safe work practices and procedures

Evidence Guide

EVIDENCE GUIDE	
The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.	
Overview of assessment	A person who demonstrates competency in this unit must be able to carry out mechanical cutting on a range of machines. Competency in this unit cannot be claimed until all prerequisites have been satisfied.
Critical aspects for assessment and evidence required to demonstrate competency in this unit	Assessors must be satisfied that the candidate can competently and consistently perform all elements of the unit as specified by the criteria, including required knowledge, and be capable of applying the competency in new and different situations and contexts.
Context of and specific resources for assessment	This unit may be assessed on the job, off the job or a combination of both on and off the job. Where assessment occurs off the job, that is the candidate is not in productive work, then an appropriate simulation must be used where the range of conditions reflects realistic workplace situations. The competencies covered by this

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EVIDENCE GUIDE	
	unit would be demonstrated by an individual working alone or as part of a team. The assessment environment should not disadvantage the candidate. This unit could be assessed in conjunction with any other units addressing the safety, quality, communication materials handling, recording and reporting associated with carrying out mechanical cutting or other units requiring the exercise of the skills and knowledge covered by this unit.
Method of assessment	Assessors should gather a range of evidence that is valid, sufficient, current and authentic. Evidence can be gathered through a variety of ways including direct observation, supervisor's reports, project work, samples and questioning. Questioning techniques should not require language, literacy and numeracy skills beyond those required in this unit of competency. The candidate must have access to all tools, equipment, materials and documentation required. The candidate must be permitted to refer to any relevant workplace procedures, product and manufacturing specifications, codes, standards, manuals and reference materials.
Guidance information for assessment	

Range Statement

RANGE STATEMENT	
The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.	
Machine	Guillotines, croppers, cold saws, band saws, automatic saws etc.
Tooling	Tooling to suit guillotines, croppers, cold saws, band saws, automatic saws etc.

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RANGE STATEMENT	
Stops and guards	All safety equipment/stops/guards on guillotines, croppers, cold saws, band saws, automatic saws etc.
Material	Ferrous and non-ferrous metals and non-metallic products
Codes and standards	Legislative and regulatory requirements, industry and enterprise codes and standards

Unit Sector(s)

Unit sector	

Co-requisite units

Co-requisite units		

Competency field

Competency field	Fabrication

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MEM05007C Perform manual heating and thermal cutting

Modification History

Not Applicable

Unit Descriptor

Unit descriptor	This unit covers performing manual heating, thermal cutting and gouging including the assembly and disassembly and operation of the equipment on a range of materials (ferrous, non-ferrous and non-metallic) using a variety of methods.

Application of the Unit

Application of the unit	This unit applies to manual, straight line cutting standards. Manual or automatic processes are used to cut and heat to specifications. Cutting may include flame gouging by hand. All work is carried out to legislative and regulatory requirements. Predetermined standards of quality and safety are observed and work is carried out following standard operating procedures. **Band**: **A** **Unit Weight**: **2**

Licensing/Regulatory Information

Not Applicable

Pre-Requisites

Prerequisite units		

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Prerequisite units		

Employability Skills Information

Employability skills	This unit contains employability skills.

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.

Elements and Performance Criteria

ELEMENT	**PERFORMANCE CRITERIA**
1. Assemble/disassemble plant and equipment	1.1. Accessories and equipment are correctly selected and assembled for manual heating and thermal cutting.
2. Operate heating and thermal cutting equipment	2.1. Cutting process and/or procedure appropriate for material is selected. 2.2. All safety procedures are observed. 2.3. Equipment start-up procedures are followed correctly to standard operating procedures. 2.4. Equipment adjustments are made correctly using standard operating procedures. 2.5. Appropriate cutting allowances are made. 2.6. Material is used in the most economical way. 2.7. Defects are identified and corrective action is taken to standard operating procedures. 2.8. Material is heated and cut to specification.

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ELEMENT	PERFORMANCE CRITERIA
	2.9. Shape/size/length is to accepted workplace standards.

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

Look for evidence that confirms skills in:

- performing pre-start checks
- safely starting equipment
- following standard operating procedures
- adjusting equipment to operating specifications
- making cutting allowances
- economising material and minimising wastage
- identifying cutting defects and taking corrective action
- heating and cutting materials to specifications
- reading and interpreting routine information on written job instructions, specifications and standard operating procedures. May include drawings
- following oral instructions
- performing measurements needed to meet the requirements of this unit
- entering routine and familiar information onto proformas and standard workplace forms

Required knowledge

Look for evidence that confirms knowledge of:

- cutting processes appropriate to various materials
- heating and cutting specifications
- procedures for heating and cutting
- the tools, equipment and techniques for heating and cutting
- assembling procedures for equipment and accessories
- hazards and control measures associated with manual heating and thermal cutting
- use and application of personal protective clothing and equipment
- equipment pre-checks and operation
- procedures for adjusting heating and cutting equipment

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REQUIRED SKILLS AND KNOWLEDGE
• cutting allowances and reasons for applying them • procedures for minimising waste material • reasons for minimising waste material • cutting defects and their causes • procedures for correcting cutting defects • tools, equipment and techniques required to correct cutting defects • use and application of personal protective equipment • safe work practices and procedures

Evidence Guide

EVIDENCE GUIDE	
The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.	
Overview of assessment	A person who demonstrates competency in this unit must be able to perform manual heating and thermal cutting.
Critical aspects for assessment and evidence required to demonstrate competency in this unit	Assessors must be satisfied that the candidate can competently and consistently perform all elements of the unit as specified by the criteria, including required knowledge, and be capable of applying the competency in new and different situations and contexts.
Context of and specific resources for assessment	This unit may be assessed on the job, off the job or a combination of both on and off the job. Where assessment occurs off the job, that is the candidate is not in productive work, then an appropriate simulation must be used where the range of conditions reflects realistic workplace situations. The competencies covered by this unit would be demonstrated by an individual working alone or as part of a team. The assessment environment should not disadvantage the candidate. This unit could be assessed in conjunction with any other units addressing the safety, quality, communication, materials handling, recording and reporting associated with manual heating/thermal cutting or other units requiring the exercise of the skills and knowledge covered by this unit.

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EVIDENCE GUIDE	
Method of assessment	Assessors should gather a range of evidence that is valid, sufficient, current and authentic. Evidence can be gathered through a variety of ways including direct observation, supervisor's reports, project work, samples and questioning. Questions should not require language, literacy and numeracy skills beyond those required in this unit. The candidate must have access to all tools, equipment, materials and documentation required. The candidate must be permitted to refer to any relevant workplace procedures, product and manufacturing specifications, codes, standards, manuals and reference materials.
Guidance information for assessment	

Range Statement

RANGE STATEMENT	
The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.	
Cutting	Use of hand held and self-propelled straight line cutters
Process	Fuel gas, oxy fuel gas and air fuel gas
Material	Various thicknesses and types including ferrous, non-ferrous and non-metallic materials

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Unit Sector(s)

Unit sector	

Co-requisite units

Co-requisite units		

Competency field

Competency field	Fabrication

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MEM05012C Perform routine manual metal arc welding

Modification History

Not Applicable

Unit Descriptor

Unit descriptor	This unit covers preparing the materials and carrying out routine manual metal arc welding (MMAW).

Application of the Unit

Application of the unit	This unit applies in a maintenance or manufacturing environment where the welding is not required to meet an Australian standard or equivalent. Fillet and butt welds would typically be performed on low carbon/mild steels. Where welding is required to AS 1554 General Purpose or equivalent codes, occupational health and safety regulations and/or licensing requirements, Unit MEM05015D (Weld using manual metal arc welding process) should be selected. **Band**: **A** **Unit Weight**: **2**

Licensing/Regulatory Information

Refer to Application of the Unit

Pre-Requisites

Prerequisite units		

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Prerequisite units		

Employability Skills Information

Employability skills	This unit contains employability skills.

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.

Elements and Performance Criteria

ELEMENT	**PERFORMANCE CRITERIA**
1. Identify weld requirements	1.1. Weld requirements are identified from job instructions. 1.2. Location of welds is identified in accordance with standard operating procedures and job specifications.
2. Prepare materials for welding	2.1. Materials are cleaned and prepared ready for welding.
3. Prepare equipment for welding	3.1. Welding equipment is set up correctly. 3.2. Correct electrodes are selected to suit application and settings.
4. Perform routine welding using MMAW	4.1. Safe welding practices are applied. 4.2. Materials are welded to job requirements. 4.3. Welds are cleaned in accordance with standard operating procedures.

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Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE
This section describes the skills and knowledge required for this unit.
Required skills
Look for evidence that confirms skills in: • preparing materials and electrodes • setting up welding equipment • welding with MMAW • reading and interpreting routine information on written job instructions, specifications and standard operating procedures • performing measurements for joint preparation and routine MMAW
Required knowledge
Look for evidence that confirms knowledge of: • material and equipment preparation • properties and characteristics of materials and consumables • weld characteristics • equipment set-up and settings • MMAW processes and properties • post-welding treatments • safe welding practices • use and application of personal protective equipment

Evidence Guide

EVIDENCE GUIDE	
The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.	
Overview of assessment	A person who demonstrates competency in this unit must be able to prepare materials and carry out routine manual metal arc welding (MMAW).

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EVIDENCE GUIDE	
Critical aspects for assessment and evidence required to demonstrate competency in this unit	Assessors must be satisfied that the candidate can competently and consistently perform all elements of the unit as specified by the criteria, including required knowledge, and be capable of applying the competency in new and different situations and contexts.
Context of and specific resources for assessment	This unit may be assessed on the job, off the job or a combination of both. Where assessment occurs off the job, i.e. the candidate is not in productive work, then appropriate simulation must be used where the range of conditions reflects realistic workplace situations. The competencies covered would be demonstrated by an individual working alone or as part of a team. The assessment environment should not disadvantage the candidate. This unit could be assessed in conjunction with any other units addressing the safety, quality, communication, materials handling, recording and reporting associated with performing routine manual metal arc welding or other units requiring the exercise of the skills and knowledge covered by this unit.
Method of assessment	Assessors should gather a range of evidence that is valid, sufficient, current and authentic. Evidence can be gathered through a variety of ways including direct observation, supervisor's reports, project work, samples and questioning. Questioning should not require language, literacy and numeracy skills beyond those required in this unit. The candidate must have access to all tools, equipment, materials and documentation required. The candidate must be permitted to refer to any relevant workplace procedures, product and manufacturing specifications, codes, standards, manuals and reference materials.
Guidance information for assessment	

Range Statement

RANGE STATEMENT

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RANGE STATEMENT	
The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.	
Materials	Low and mild carbon steel or similar
Prepared	Cleaning, setting up jigs, fixtures, clamps, joint preparation
Welding equipment	Welding leads, welding machines, electrode holder etc.
Cleaned	Slag and spatter, cleaning, using files and grinders

Unit Sector(s)

Unit sector	

Co-requisite units

Co-requisite units		

Competency field

Competency field	Fabrication

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MEM05013C Perform manual production welding

Modification History

Not Applicable

Unit Descriptor

Unit descriptor	This unit covers performing tacking or production welding, including spot welding using a range of methods and metallic and non-metallic materials in a production environment.

Application of the Unit

Application of the unit	This unit applies to welding undertaken in the production environment. Guidance may be required with respect to equipment settings, choice of consumables, gas mixture and pressures. For performing automated/production welding, Unit MEM07024B (Operate and monitor machine/process) or Unit MEM07025B (Perform advanced machine/process operation) should be considered. **Band**: **A** **Unit Weight**: **2**

Licensing/Regulatory Information

Not Applicable

Pre-Requisites

Prerequisite units		

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Prerequisite units		

Employability Skills Information

Employability skills	This unit contains employability skills.

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.

Elements and Performance Criteria

ELEMENT	**PERFORMANCE CRITERIA**
1. Tack and/or weld material using appropriate welding process	1.1. Material is prepared for the process to be used following standard operating procedures. 1.2. Material is aligned (if required) using dedicated jigs and fixtures. 1.3. Welding is carried out to accepted workplace standards.

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE
This section describes the skills and knowledge required for this unit.

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REQUIRED SKILLS AND KNOWLEDGE
Required skills
Look for evidence that confirms skills in: • aligning to jigs and fixtures • welding within the scope of this unit • following standard operating procedures
Required knowledge
Look for evidence that confirms knowledge of: • function and use of jigs and fixtures in production welding • hazards associated with the welding process used • function, application and operation of welding equipment within the scope of this unit • material preparation • acceptable workplace standards

Evidence Guide

EVIDENCE GUIDE	
The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.	
Overview of assessment	A person who demonstrates competency in this unit must be able to perform tacking or production welding, including spot welding using a range of methods and metallic and non-metallic materials in a production environment.
Critical aspects for assessment and evidence required to demonstrate competency in this unit	Assessors must be satisfied that the candidate can competently and consistently perform all elements of the unit as specified by the criteria, including required knowledge, and to be capable of applying the competency in new and different situations and contexts.
Context of and specific resources for assessment	This unit may be assessed on the job, off the job or a combination of both on and off the job. Where assessment occurs off the job, that is the candidate is not in productive work, then an appropriate simulation must

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EVIDENCE GUIDE	
	be used where the range of conditions reflects realistic workplace situations. The competencies covered by this unit would be demonstrated by an individual working alone or as part of a team. The assessment environment should not disadvantage the candidate. This unit could be assessed in conjunction with any other units addressing the safety, quality, communication, materials handling, recording and reporting associated with performing manual production welding or other units requiring the exercise of the skills and knowledge covered by this unit.
Method of assessment	Assessors should gather a range of evidence that is valid, sufficient, current and authentic. Evidence can be gathered through a variety of ways including direct observation, supervisor's reports, project work, samples and questioning. Questioning techniques should not require language, literacy and numeracy skills beyond those required in this unit of competency. The candidate must have access to all tools, equipment, materials and documentation required. The candidate must be permitted to refer to any relevant workplace procedures, product and manufacturing specifications, codes, standards, manuals and reference materials.
Guidance information for assessment	

Range Statement

RANGE STATEMENT	
The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.	
Material	Metallic and non-metallic materials, including low carbon steels

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RANGE STATEMENT	
Welding	Spot, resistance, hot air, ultrasonic

Unit Sector(s)

Unit sector	

Co-requisite units

Co-requisite units		

Competency field

Competency field	Fabrication

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MEM05050B Perform routine gas metal arc welding

Modification History

Not Applicable

Unit Descriptor

Unit descriptor	This unit covers preparing materials and routine gas metal arc welding (GMAW).

Application of the Unit

Application of the unit	This unit applies in a maintenance or manufacturing environment where the weld quality is not required to meet an Australian Standard or equivalent. Fillet and butt welds would typically be performed on low carbon/mild steels. Where welding is required to meet Australian Standard 1554 General Purpose or equivalent codes, occupational health and safety regulations and/or licensing requirements, Unit MEM05017D (Weld using gas metal arc welding process) should be selected. **Band**: **A** **Unit Weight**: **2**

Licensing/Regulatory Information

Refer to Application of the Unit

Pre-Requisites

Prerequisite units		

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Prerequisite units		

Employability Skills Information

Employability skills	This unit contains employability skills.

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.

Elements and Performance Criteria

ELEMENT	**PERFORMANCE CRITERIA**
1. Identify weld requirements	1.1. Weld requirements are identified from job instructions. 1.2. Locations of welds are identified in according to standard operating procedures and job specifications.
2. Prepare materials for welding	2.1. Materials are cleaned and prepared ready for welding.
3. Prepare equipment for welding	3.1. Welding equipment is set up correctly. 3.2. Settings and consumables are selected to suit application.
4. Perform routine welding using GMAW	4.1. Safe welding practices are applied. 4.2. Materials are welded to job requirements. 4.3. Welds are cleaned to standard operating procedures.

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Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE This section describes the skills and knowledge required for this unit.
Required skills
Look for evidence that confirms skills in: • preparing materials • setting up welding equipment • welding with GMAW • reading and interpreting routine information on written job instructions, specifications and standard operating procedures • following oral instruction • using measurement skills relating to joint preparation and routine GMAW
Required knowledge
Look for evidence that confirms knowledge of: • 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 • fuel gas properties and applications • post-welding treatments • weld characteristics • safe welding practices • use and application of personal protective equipment for routine GMAW

Evidence Guide

EVIDENCE GUIDE	
The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.	
Overview of assessment	A person who demonstrates competency in this unit must

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EVIDENCE GUIDE	
	be able to perform routine gas metal arc welding (GMAW).
Critical aspects for assessment and evidence required to demonstrate competency in this unit	Assessors must be satisfied that the candidate can competently and consistently perform all elements of the unit as specified by the criteria, including required knowledge, and be capable of applying the competency in new and different situations and contexts.
Context of and specific resources for assessment	This unit may be assessed on the job, off the job or a combination of both on and off the job. Where assessment occurs off the job, that is the candidate is not in productive work, then an appropriate simulation must be used where the range of conditions reflects realistic workplace situations. The competencies covered by this unit would be demonstrated by an individual working alone or as part of a team. The assessment environment should not disadvantage the candidate. This unit could be assessed in conjunction with any other units addressing the safety, quality, communication, materials handling, recording and reporting associated with preparing the materials and carrying out routine gas metal arc welding or other units requiring the exercise of the skills and knowledge covered by this unit.
Method of assessment	Assessors should gather a range of evidence that is valid, sufficient, current and authentic. Evidence can be gathered through a variety of ways including direct observation, supervisor's reports, project work, samples and questioning. Questioning techniques should not require language, literacy and numeracy skills beyond those required in this unit of competency. The candidate must have access to all tools, equipment, materials and documentation required. The candidate must be permitted to refer to any relevant workplace procedures, product and manufacturing specifications, codes, standards, manuals and reference materials.
Guidance information for assessment	

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Range Statement

RANGE STATEMENT	
The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.	
Materials	Mild and low carbon steel
Prepared	Preheating, setting up jigs, fixtures, clamps, joint preparation
Equipment	Hoses, welding leads, gas shrouds, gas regulators, liners, contact tips
Consumables	Filler wire, shielding gas
Cleaned	Slag and spatter

Unit Sector(s)

Unit sector	

Co-requisite units

Co-requisite units		

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Competency field

Competency field	Fabrication

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MEM07001B Perform operational maintenance of machines/equipment

Modification History

Not Applicable

Unit Descriptor

Unit descriptor	This unit covers carrying out programmed safety and maintenance checks on machines/equipment.

Application of the Unit

Application of the unit	This unit mainly applies in a manufacturing setting, where routine programmed operational maintenance to machines/equipment is required. It is not intended to be used where higher level maintenance activities are performed. Machines/equipment range includes manual, semi-automatic and automatic machines of a stand-alone continuous production or process nature. This unit should not be selected when any of the following are selected: Unit MEM18055B (Dismantle, replace and assemble engineering components), Unit MEM18006C (Repair and fit engineering components), Unit MEM07005C (Perform general machining). **Band**: **A** **Unit Weight**: **2**

Licensing/Regulatory Information

Not Applicable

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Pre-Requisites

Prerequisite units		
Path 1	MEM18001C	Use hand tools

Employability Skills Information

Employability skills	This unit contains employability skills.

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.

Elements and Performance Criteria

ELEMENT	**PERFORMANCE CRITERIA**
1. Undertake programmed safety and maintenance checks	1.1. Checks are undertaken safely and to prescribed procedure. 1.2. Status/report is recorded on proforma or reported orally.
2. Undertake programmed maintenance	2.1. Removal/replacement of consumable components is undertaken to prescribed procedure and instructions are followed. 2.2. Fluids and lubricants are replaced and/or topped up to prescribed schedule.

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Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE This section describes the skills and knowledge required for this unit.
Required skills
Look for evidence that confirms skills in: • undertaking programmed safety and maintenance checks • undertaking programmed operational maintenance • entering routine and familiar information onto proformas and standard workplace forms • following routine information on written procedures • following oral instructions • orally reporting routine information
Required knowledge
Look for evidence that confirms knowledge of: • programmed maintenance and safety check procedures for the specified machine/equipment • recording/reporting requirements • safe work practices and procedures • hazards and control measures associated with operational maintenance of machines/equipment

Evidence Guide

EVIDENCE GUIDE	
The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.	
Overview of assessment	A person who demonstrates competency in this unit must be able to perform operational maintenance of machines/equipment. Competency in this unit cannot be claimed until all prerequisites have been satisfied.
Critical aspects for assessment and evidence required to demonstrate competency in this unit	Assessors must be satisfied that the candidate can competently and consistently perform all elements of the unit as specified by the criteria, including required

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EVIDENCE GUIDE	
	knowledge, and be capable of applying the competency in new and different situations and contexts.
Context of and specific resources for assessment	This unit may be assessed on the job, off the job or a combination of both on and off the job. Where assessment occurs off the job, that is the candidate is not in productive work, then an appropriate simulation must be used where the range of conditions reflects realistic workplace situations. The competencies covered by this unit would be demonstrated by an individual working alone or as part of a team. The assessment environment should not disadvantage the candidate. This unit could be assessed in conjunction with any other units addressing the safety, quality, communication, materials handling, recording and reporting associated with operational maintenance of machines/equipment or other units requiring the exercise of the skills and knowledge covered by this unit.
Method of assessment	Assessors should gather a range of evidence that is valid, sufficient, current and authentic. Evidence can be gathered through a variety of ways including direct observation, supervisor's reports, project work, samples and questioning. Questioning techniques should not require language, literacy and numeracy skills beyond those required in this unit of competency. The candidate must have access to all tools, equipment, materials and documentation required. The candidate must be permitted to refer to any relevant workplace procedures, product and manufacturing specifications, codes, standards, manuals and reference materials.
Guidance information for assessment	

Range Statement

RANGE STATEMENT
The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating

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RANGE STATEMENT	
conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.	
Machines/equipment	Manual, semi-automatic and automatic machines of a stand-alone continuous production or process nature
Checks	Programmed safety and maintenance checks Adjustments of a limited nature including safety guards, stops, wear pads and tool holders, nipping up glands and adjustment of scrapers and aprons
Consumable components	Air filters, oil wipers, grease containers, tool tips, indicator globes, fluids and lubricants, guides and limit switch actuators

Unit Sector(s)

Unit sector	

Co-requisite units

Co-requisite units		

Competency field

Competency field	Machine and process operations

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MEM07024B Operate and monitor machine/process

Modification History

Not Applicable

Unit Descriptor

Unit descriptor	This unit covers obtaining the job instruction, conducting the pre-start checks, and operating and monitoring the machine or process.

Application of the Unit

Application of the unit	This unit applies to a range of production operations or continuous processes. The work is performed in accordance with clear step-by-step instructions and procedures documented on job sheets or similar process instruction documents. Operational adjustments to the machine or process by the operator are made using external controls. Basic operation (excluding setting and tool adjustments) of CNC machines is covered by this unit. Where production packaging and labelling of the finished goods or product is required, Unit MEM11006B (Perform production packaging) should be considered. This unit should not be selected with any of the following units unless the skills of this unit are being applied to an additional and different type of machine and or process: Unit MEM04001B (Operate melting furnaces), Unit MEM04002B (Perform gravity die casting), Unit MEM04003B (Operate pressure die casting machine), Unit MEM04006B (Operate sand moulding and core making machines), Unit MEM06001B (Perform hand forging), Unit MEM06002B (Perform hammer forging), Unit MEM08001B (Perform wire, jig and barrel load/unload work), Unit MEM08004B (Finish work using wet, dry and vapour deposition methods), Unit MEM08008B (Operate and control surface finishing waste treatment process)

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	Band: **A** **Unit Weight**: **4**

Licensing/Regulatory Information

Not Applicable

Pre-Requisites

Prerequisite units		

Employability Skills Information

Employability skills	This unit contains employability skills.

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.

Elements and Performance Criteria

ELEMENT	**PERFORMANCE CRITERIA**
1. Obtain job	1.1. Job sheets or equivalent instructions are interpreted

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ELEMENT	PERFORMANCE CRITERIA
instructions	correctly.
2. Conduct pre-start checks	2.1. Pre-start checks are undertaken to standard operating procedure. 2.2. Safety procedures are observed and all safety equipment is checked for correct operation.
3. Operate machine/process	3.1. Machine/process is started up safely and correctly in accordance with standard operating procedures. 3.2. Machine/process is operated in accordance with job instructions or standard operating procedures. 3.3. Components/feed stock are loaded and maintained consistent with production requirements. 3.4. Machine/process output is unloaded safely to standard operating procedures, as required. 3.5. Machine/process output is handled and stored in a manner not likely to cause damage, as required. 3.6. Production data is recorded to standard operating procedures.
4. Monitor machine/process	4.1. Machine/process is monitored for safe and correct operation, deviations and faults are identified and reported in accordance with standard operating procedures. 4.2. Emergency procedures are understood and followed in accordance with standard operating procedures.

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE
This section describes the skills and knowledge required for this unit.
Required skills
Look for evidence that confirms skills in: • following job sheets, standard operating procedures and other applicable workplace forms • manual handling • following oral instructions • entering routine and familiar information onto proformas and standard workplace forms

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REQUIRED SKILLS AND KNOWLEDGE
• orally reporting routine information • identifying deviations and faults in machine operation/process
Required knowledge
Look for evidence that confirms knowledge of: • pre-start checks • machine/process start-up and unloading procedures • component/feed stock levels to ensure continuous process • production recording and reporting requirements • types of product fault/deviations • consequences of improper handling and storing of finished work • procedures to be followed in emergency situations • use and application of personal protective equipment • safe work practices and procedures • hazards and control measures associated with operating and monitoring machine/process

Evidence Guide

EVIDENCE GUIDE	
The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.	
Overview of assessment	A person who demonstrates competency in this unit must be able to obtain the job instruction, conduct the pre-start checks, and operate and monitor the machine or process.
Critical aspects for assessment and evidence required to demonstrate competency in this unit	Assessors must be satisfied that the candidate can competently and consistently perform all elements of the unit as specified by the criteria, including required knowledge, and be capable of applying the competency in new and different situations and contexts.
Context of and specific resources for assessment	This unit may be assessed on the job, off the job or a combination of both on and off the job. Where assessment occurs off the job, that is the candidate is not in productive work, then an appropriate simulation must be used where the range of conditions reflects realistic

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EVIDENCE GUIDE	
	workplace situations. The competencies covered by this unit would be demonstrated by an individual working alone or as part of a team. The assessment environment should not disadvantage the candidate. This unit could be assessed in conjunction with any other units addressing the safety, quality, communication, materials handling, recording and reporting associated with operating and monitoring machine/process or other units requiring the exercise of the skills and knowledge covered by this unit.
Method of assessment	Assessors should gather a range of evidence that is valid, sufficient, current and authentic. Evidence can be gathered through a variety of ways including direct observation, supervisor's reports, project work, samples and questioning. Questioning techniques should not require language, literacy and numeracy skills beyond those required in this unit of competency. The candidate must have access to all tools, equipment, materials and documentation required. The candidate must be permitted to refer to any relevant workplace procedures, product and manufacturing specifications, codes, standards, manuals and reference materials.
Guidance information for assessment	

Range Statement

RANGE STATEMENT	
The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.	
Pre-start checks	Condition of machine before operation
Machine/process	Machines and processes used in pressing, punching, plastic moulding, extruding, bending,

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RANGE STATEMENT	
	joining, rolling, forming, drawing, metal removal, pickling, cylinder filling, printing, painting etc.
Production data	Production schedules, job sheets, checklists

Unit Sector(s)

Unit sector	

Co-requisite units

Co-requisite units		

Competency field

Competency field	Machine and process operations

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MEM07028B Operate computer controlled machines/processes

Modification History

Not Applicable

Unit Descriptor

Unit descriptor	This unit covers obtaining the job instructions, conducting the pre-start checks, and operating and monitoring the computer controlled machine or process.

Application of the Unit

Application of the unit	This unit applies to a range of NC, CNC and robot operated machines or processes in a production environment. Work is performed to established processes, practices, specifications and instructions as appropriate. Technical difficulties are resolved in consultation with appropriate technical advisers. An appropriate level of measurement skill should be selected with this unit. Where it is required to use tools, then Unit MEM18001C (Use hand tools) should also be selected. Where basic operation excludes setting and tool adjustment skills, then Unit MEM07024B (Operate and monitor machine/process) should be selected. When operational maintenance is required, unit MEM07001B (Perform operational maintenance of machines/equipment) should be selected. **Band**: **A** **Unit Weight**: **2**

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Licensing/Regulatory Information

Not Applicable

Pre-Requisites

Prerequisite units		
Path 1	MEM07024B	Operate and monitor machine/process

Employability Skills Information

Employability skills	This unit contains employability skills.

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.

Elements and Performance Criteria

ELEMENT	**PERFORMANCE CRITERIA**
1. Obtain job instructions	1.1. Job sheets or equivalent instructions are understood and correctly followed.
2. Conduct pre-start checks	2.1. Pre-start checks are undertaken to standard operating procedures. 2.2. Correct safety procedures are observed and all safety equipment is checked for correct operation.
3. Operate computer	3.1. Installed computer controlled program is selected

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ELEMENT	PERFORMANCE CRITERIA
controlled machine/process	and verified in accordance with job instructions. 3.2. Computer controlled machine is operated safely to product specifications using standard operating procedures. 3.3. Machine malfunctions are identified and reported. 3.4. Production samples are checked for compliance to specification using standard operating procedures.
4. Monitor machine/process	4.1. Tool wear is monitored and, where appropriate, preset tools are replaced, tool offsets are identified in computer controlled program and adjusted, or other corrective action is taken using standard operating procedures. 4.2. Product deviation from specification is reported in accordance with standard operating procedures.

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

Look for evidence that confirms skills in:

- reading, interpreting and following information on written job instructions, specifications, standard operating procedures, charts, lists, drawings and other applicable reference documents
- planning and sequencing operations
- checking and clarifying task related information
- making pre-start checks
- checking safety equipment and guards for correct operation
- following safety procedures
- selecting and verifying the correct computer controlled program
- operating the computer controlled machine
- identifying and reporting machine malfunctions
- checking parts/products for conformance to specification
- monitoring the machine or process for signs of tool wear
- taking corrective action
- reporting part or product deviations from specification

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REQUIRED SKILLS AND KNOWLEDGE
Required knowledge
Look for evidence that confirms knowledge of: • pre-start checks • safety equipment and features associated with the machine/process • safety procedures associated with the machine/process • procedures for accessing computer controlled programs installed in the machine controller • procedures for verifying the correct computer controlled program • computer controlled machine operating procedures • typical machine malfunctions • procedures for reporting machine malfunctions • measuring instruments/techniques • examples of tool wear and the effect on product or part specifications • procedures to be followed once tool wear has been detected • replacing preset tools • adjustments to tool offsets • the effect of adjustments on part or product specifications • procedures for reporting product or part deviations • hazards and control measures associated with operating computer controlled machines/processes, including housekeeping • safe workplace practices and procedures

Evidence Guide

EVIDENCE GUIDE	
The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.	
Overview of assessment	A person who demonstrates competency in this unit must be able to operate computer controlled machine/processes. Competency in this unit cannot be claimed until all prerequisites have been satisfied.
Critical aspects for assessment and evidence required to demonstrate competency in this unit	Assessors must be satisfied that the candidate can competently and consistently perform all elements of the unit as specified by the criteria, including required

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EVIDENCE GUIDE	
	knowledge, and be capable of applying the competency in new and different situations and contexts.
Context of and specific resources for assessment	This unit may be assessed on the job, off the job or a combination of both on and off the job. Where assessment occurs off the job, that is the candidate is not in productive work, then an appropriate simulation must be used where the range of conditions reflects realistic workplace situations. The competencies covered by this unit would be demonstrated by an individual working alone or as part of a team. The assessment environment should not disadvantage the candidate. This unit could be assessed in conjunction with any other units addressing the safety, quality, communication, materials handling, recording and reporting associated with operating computer controlled machine/processes or other units requiring the exercise of the skills and knowledge covered by this unit.
Method of assessment	Assessors should gather a range of evidence that is valid, sufficient, current and authentic. Evidence can be gathered through a variety of ways including direct observation, supervisor's reports, project work, samples and questioning. Questioning techniques should not require language, literacy and numeracy skills beyond those required in this unit of competency. The candidate must have access to all tools, equipment, materials and documentation required. The candidate must be permitted to refer to any relevant workplace procedures, product and manufacturing specifications, codes, standards, manuals and reference materials.
Guidance information for assessment	

Range Statement

RANGE STATEMENT
The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating

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RANGE STATEMENT	
conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.	

Unit Sector(s)

Unit sector	

Co-requisite units

Co-requisite units		

Competency field

Competency field	Machine and process operations

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MEM08002C Pre-treat work for subsequent surface coating

Modification History

Not Applicable

Unit Descriptor

Unit descriptor	This unit covers pre-treating common ferrous and non-ferrous work.

Application of the Unit

Application of the unit	This unit applies to pre-treatment of common ferrous and non-ferrous work for finishing by a wide variety of processes, such as wet coating, powder coating, electroplating, anodising, electroless plating, electrophoretic coating and hot dip metallising. In the pre-treatment process, adjustments to apparatus/equipment/controls include temperature settings, current/voltage and solution compositions. This unit should not be selected if Unit MEM08003C (Perform electroplating operations) has already been selected. **Band**: **A** **Unit Weight**: **4**

Licensing/Regulatory Information

Not Applicable

Pre-Requisites

Prerequisite units	

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Prerequisite units		
Path 1	MEM13003B	Work safely with industrial chemicals and materials

Employability Skills Information

Employability skills	This unit contains employability skills.

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.

Elements and Performance Criteria

ELEMENT	**PERFORMANCE CRITERIA**
1. Identify job material	1.1. Common metals, alloys and non-metals can be identified.
2. Identify job surface condition	2.1. Common surface soils and conditions can be identified.
3. Perform pre-treatment processes in correct sequence	3.1. Pre-treatment processes are carried out to standard operating procedures. 3.2. Pre-treatment process parameters are monitored to ensure they remain within specified limits.

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Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

Look for evidence that confirms skills in:

- reading and following routine and familiar information on standard operating procedures
- recognising common surface soils and conditions from given samples
- carrying out appropriate pre-treatment processes
- monitoring and maintaining the pre-treatment process parameters within specified limits
- following verbal instructions
- orally reporting routine information

Required knowledge

Look for evidence that confirms knowledge of:

- characteristics of common metals, alloys and non-metals and procedures and techniques for identifying them
- common surface soils and conditions
- procedures for identifying the type(s) of soil on surfaces to be finished
- simple tests that can be used to assist in identifying surface soils and conditions
- pre-treatment processes applicable to a range of materials, surface soils and conditions
- procedures for carrying out pre-treatment processes
- parameters and procedures for monitoring pre-treatment processes
- hazards and control measures associated with pre-treatment
- use and application of personal protective equipment
- safe work practices and procedures

Evidence Guide

EVIDENCE GUIDE

The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.

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EVIDENCE GUIDE	
Overview of assessment	A person who demonstrates competency in this unit must be able to pre-treat common ferrous and non-ferrous materials. Competency in this unit cannot be claimed until all prerequisites have been satisfied.
Critical aspects for assessment and evidence required to demonstrate competency in this unit	Assessors must be satisfied that the candidate can competently and consistently perform all elements of the unit as specified by the criteria, including required knowledge, and be capable of applying the competency in new and different situations and contexts.
Context of and specific resources for assessment	This unit may be assessed on the job, off the job or a combination of both on and off the job. Where assessment occurs off the job, that is the candidate is not in productive work, then an appropriate simulation must be used where the range of conditions reflects realistic workplace situations. The competencies covered by this unit would be demonstrated by an individual working alone or as part of a team. The assessment environment should not disadvantage the candidate. This unit could be assessed in conjunction with any other units addressing the safety, quality, communication, materials handling, recording and reporting associated with pre-treating common ferrous and non-ferrous materials or other units requiring the exercise of the skills and knowledge covered by this unit.
Method of assessment	Assessors should gather a range of evidence that is valid, sufficient, current and authentic. Evidence can be gathered through a variety of ways including direct observation, supervisor's reports, project work, samples and questioning. Questioning techniques should not require language, literacy and numeracy skills beyond those required in this unit of competency. The candidate must have access to all tools, equipment, materials and documentation required. The candidate must be permitted to refer to any relevant workplace procedures, product and manufacturing specifications, codes, standards, manuals and reference materials.
Guidance information for assessment	

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Range Statement

RANGE STATEMENT	
The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.	
Common metals	Steel, copper, brass, zinc, cast iron, stainless steel
Surface soils and conditions	Oils, greases, drawing compounds, cutting lubricants, buffing lubricants, rust and scale
Pre-treatment processes	Solvent degreasing, alkaline cleaning, pickling, acid dipping
Process parameters	Temperature, time, currents, solution concentrate

Unit Sector(s)

Unit sector	

Co-requisite units

Co-requisite units		

Competency field

Competency field	Surface finishing

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MEM08007B Control surface finish production and finished product quality

Modification History

Not Applicable

Unit Descriptor

Unit descriptor	This unit covers applying the principles of quality assurance, applying research and quality information to the production process, and performing quality tests to industry standards.

Application of the Unit

Application of the unit	This unit applies to lifting and moving material manually and by basic mechanical handling devices/aids in a wide range of environments. Analyses are confined to the use of basic instruments such as pH meters, hydrometers, stalagmometers, laboratory balances. **Band**: **A** **Unit Weight**: **4**

Licensing/Regulatory Information

Not Applicable

Pre-Requisites

Prerequisite units		

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Prerequisite units		

Employability Skills Information

Employability skills	This unit contains employability skills.

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.

Elements and Performance Criteria

ELEMENT	**PERFORMANCE CRITERIA**
1. Apply principles of quality assurance	1.1. Quality assurance standards are applied to enterprise specifications.
2. Apply research or quality data to production process	2.1. Liaison is undertaken with in-house/external control laboratories. 2.2. Data is correctly interpreted and process changes are recommended. 2.3. Process changes are effectively implemented. 2.4. Laboratory/research data is used to determine and make changes/corrections to processes.
3. Perform quality tests to industry standards	3.1. Quality testing is performed as required to standard operating procedures and industry standards.

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Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

Look for evidence that confirms skills in:

- reading and interpreting quality assurance standards, test data other applicable reference documents
- liaising between the production section and the control laboratory
- checking and clarifying information
- using effective communication skills and terminology for conveying and discussing task-related information
- determining and recommending process changes
- using tests to calculate process parameters on the basis of test and production data collected
- using appropriate tests, testing equipment and techniques to test the surface coating for conformance with specification

Required knowledge

Look for evidence that confirms knowledge of:

- enterprise and industry quality assurance standards that apply to surface finish production and product quality
- the role of the control laboratory and procedures for liaising with internal/external control laboratories
- surface finish specifications
- characteristics of deviations of test/production data and their causes
- the procedures, calculations and formulae for determining process parameters
- the effect of varying process parameters on the specification of the surface finish
- surface coating tests and the procedures, equipment and techniques necessary to carry out those tests
- hazards and control measures within the scope of this unit
- use and application of personal protective equipment
- safe work practices and procedures
- manual handling techniques

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Evidence Guide

EVIDENCE GUIDE	
The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.	
Overview of assessment	A person who demonstrates competency in this unit must be able to control surface finish production and finished product quality.
Critical aspects for assessment and evidence required to demonstrate competency in this unit	Assessors must be satisfied that the candidate can competently and consistently perform all elements of the unit as specified by the criteria, including required knowledge, and be capable of applying the competency in new and different situations and contexts.
Context of and specific resources for assessment	This unit may be assessed on the job, off the job or a combination of both on and off the job. Where assessment occurs off the job, that is the candidate is not in productive work, then an appropriate simulation must be used where the range of conditions reflects realistic workplace situations. The competencies covered by this unit would be demonstrated by an individual working alone or as part of a team. The assessment environment should not disadvantage the candidate. This unit could be assessed in conjunction with any other units addressing the safety, quality, communication, materials handling, recording and reporting associated with controlling surface finish production and finished product quality or other units requiring the exercise of the skills and knowledge covered by this unit.
Method of assessment	Assessors should gather a range of evidence that is valid, sufficient, current and authentic. Evidence can be gathered through a variety of ways including direct observation, supervisor's reports, project work, samples and questioning. Questioning should not require language, literacy and numeracy skills beyond those required in this unit. The candidate must have access to all tools, equipment, materials and documentation required. The candidate must be permitted to refer to any relevant workplace procedures, product and manufacturing specifications, codes, standards, manuals and reference materials.
Guidance information for	

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EVIDENCE GUIDE	
assessment	

Range Statement

RANGE STATEMENT	
The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.	
Quality testing	Tests for hardness, adhesion, deposit stress, thickness, corrosion, resistance and appearance by checking coating thickness, appearance, corrosion resistance, adhesions, deposit stress

Unit Sector(s)

Unit sector	

Co-requisite units

Co-requisite units		

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Competency field

Competency field	Surface finishing

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MEM08011B Prepare surfaces using solvents and/or mechanical means

Modification History

Not Applicable

Unit Descriptor

Unit descriptor	This unit covers selecting the appropriate preparation process, selecting and setting up the equipment, undertaking blasting or application of solvents as required, and checking the finished surface.

Application of the Unit

Application of the unit	This unit applies to surface preparation in new surfaces and in restoration work. Application of surface preparations can apply to metal and non-metal materials. Work is undertaken autonomously or as part of a team environment to established predetermined processes, practices and specifications including environmental requirements. All work and work practices are undertaken to regulatory and legislative requirements. **Band**: **A** **Unit Weight**: **2**

Licensing/Regulatory Information

Not Applicable

Pre-Requisites

Prerequisite units	

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Prerequisite units		
Path 1	MEM13003B	Work safely with industrial chemicals and materials
	MEM18001C	Use hand tools
	MEM18002B	Use power tools/hand held operations

Employability Skills Information

Employability skills	This unit contains employability skills.

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.

Elements and Performance Criteria

ELEMENT	**PERFORMANCE CRITERIA**
1. Determine job requirements	1.1. Surface preparation requirements are determined from job sheet, instructions or other predetermined specifications in accordance with standard operating procedures. 1.2. Where required, appropriate solvent and solvent application are selected to meet job specification. 1.3. Where required, appropriate mechanical equipment is selected to meet job specification. 1.4. Work site is prepared for surface cleaning activities.
2. Set up equipment	2.1. Appropriate equipment and any required

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ELEMENT	PERFORMANCE CRITERIA
	consumables are assembled, set up and prepared correctly and safely in accordance with manufactures' specifications and standard operating procedures.
3. Prepare surfaces using solvents as required	3.1. Safe working environment for solvent use is established according to regulatory requirements and standard operating procedures. 3.2. Solvents are applied correctly. 3.3. Treated surface is neutralised and made safe to handle.
4. Prepare surfaces using mechanical means as required	4.1. Safe working environment for mechanical surface preparation is established according to regulatory requirements and standard operating procedures. 4.2. Surfaces are prepared using mechanical means. 4.3. Mechanical equipment is cleaned and checked for damage and operational faults, in accordance with standard operating procedures. 4.4. Equipment faults are recorded and reported in accordance with standard operating procedures.
5. Inspect prepared surface	5.1. Surface preparation is checked for cleanliness and conformance to specifications. 5.2. Faults or defects are rectified where required and recorded/reported in accordance with standard operating procedures.

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE
This section describes the skills and knowledge required for this unit.
Required skills
Look for evidence that confirms skills in: • planning and sequencing operations • preparing surfaces using solvents as required • preparing surfaces using mechanical means • setting up equipment and consumables • meeting all safety requirements

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REQUIRED SKILLS AND KNOWLEDGE
• using solvents correctly • neutralising solvents • using mechanical equipment to prepare surface • maintaining mechanical equipment • recording and reporting of faults • inspecting prepared surface • rectifying work performed • checking for conformance to specifications • reading and interpreting routine information on written job instructions, specifications and standard operating procedures • following oral instructions • applying measurement skills needed to meet the requirements of this unit • entering routine and familiar information onto proformas and standard workplace forms
Required knowledge
Look for evidence that confirms knowledge of: • common surface contaminates, conditions • reasons for selecting solvents • mechanical equipment required • procedure for setting up equipment • specifications applying to the surface to be prepared • methods for neutralising solvents • tools, equipment, abrasives and other materials • procedures for maintaining/storing mechanical equipment • procedures for recording/reporting faulty equipment • procedures checking prepared surfaces • rectification techniques • use and application of personal protective equipment • safe work practices and procedures • relevant hazards and control measures related to the competency

Evidence Guide

EVIDENCE GUIDE
The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment

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EVIDENCE GUIDE	
Guidelines for the Training Package.	
Overview of assessment	A person who demonstrates competency in this unit must be able to select the appropriate preparation process, select and set up the equipment, undertake mechanical preparation or application of solvents as required and inspect the finished surface. Competency in this unit cannot be claimed until all prerequisites have been satisfied.
Critical aspects for assessment and evidence required to demonstrate competency in this unit	Assessors must be satisfied that the candidate can competently and consistently perform all elements of the unit as specified by the criteria, including required knowledge, and be capable of applying the competency in new and different situations and contexts.
Context of and specific resources for assessment	This unit may be assessed on the job, off the job or a combination of both on and off the job. Where assessment occurs off the job, that is the candidate is not in productive work, then an appropriate simulation must be used where the range of conditions reflects realistic workplace situations. The competencies covered by this unit would be demonstrated by an individual working alone or as part of a team. The assessment environment should not disadvantage the candidate. This unit could be assessed in conjunction with any other units addressing the safety, quality, communication, materials handling, recording and reporting associated with surface preparation using solvents and/or mechanical means, or other units requiring the exercise of the skills and knowledge covered by this unit.
Method of assessment	Assessors should gather a range of evidence that is valid, sufficient, current and authentic. Evidence can be gathered through a variety of ways including direct observation, supervisor's reports, project work, samples and questioning. Questioning techniques should not require language, literacy and numeracy skills beyond those required in this unit of competency. The candidate must have access to all tools, equipment, materials and documentation required. The candidate must be permitted to refer to any relevant workplace procedures, product and manufacturing specifications, codes, standards, manuals and reference materials.
Guidance information for	

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EVIDENCE GUIDE	
assessment	

Range Statement

RANGE STATEMENT	
The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.	
Surface preparation	New surfaces and restoration work
Solvents	A range of cleaning chemicals including acids, chlorinated solvents and hydrocarbons
Solvent application methods	Spraying, wiping, brushing, vapour degreasing etc.
Mechanical equipment	Linishers, grinders, polishers, sanders, blast device, enclosures, air grinders etc.
Consumables	Emery cloth/belts, grinding/sanding disks, grinding accessories etc.

Unit Sector(s)

Unit sector	

Co-requisite units

Co-requisite units	

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Co-requisite units		

Competency field

Competency field	Surface finishing

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MEM08012B Prepare surfaces by abrasive blasting (basic)

Modification History

Not Applicable

Unit Descriptor

Unit descriptor	This unit covers performing a basic level of skill in surface preparation by abrasive blasting.

Application of the Unit

Application of the unit	This unit applies to surface preparation/cleaning on both ferrous and non-ferrous masonry and cementatious materials/components. Reference is made to supplier information and specifications as well as accepted and appropriate Australian and international standards. The majority of work is in a team environment and uses predetermined procedures and standards for safety and quality with all work and work practices undertaken to regulatory and legislative requirements. **Band**: **A** **Unit Weight**: **4**

Licensing/Regulatory Information

Not Applicable

Pre-Requisites

Prerequisite units		
Path 1	MEM08016B	Control blast coating by-products, materials and emissions

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Prerequisite units		
	MEM13003B	Work safely with industrial chemicals and materials

Employability Skills Information

Employability skills	This unit contains employability skills.

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.

Elements and Performance Criteria

ELEMENT	**PERFORMANCE CRITERIA**
1. Determine job requirements	1.1. Work requirements are determined from job sheet, instructions or other predetermined specifications in accordance with standard operating procedures. 1.2. Appropriate abrasive blasting process, equipment and blasting media are identified to meet job specification. 1.3. Work site is prepared for surface cleaning activities.
2. Set up equipment	2.1. Appropriate equipment and any required consumables are assembled, set up and prepared correctly and safely in accordance with manufactures' specifications and standard operating procedures. 2.2. Correct rust inhibitor for use in wet abrasive blast methods is selected where required.

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ELEMENT	PERFORMANCE CRITERIA
	2.3. Pre-operational checks are carried out on equipment and faults and are rectified or reported for further action.
3. Prepare surfaces using abrasive blasting	3.1. Blasting equipment is operated in accordance with standard operating procedures. 3.2. Emergency shut-down procedures can be undertaken. 3.3. Work procedures are undertaken to appropriate environmental requirements. 3.4. Abrasive media disposal is carried out in accordance with standard operating procedures. 3.5. Blasting equipment is cleaned and disassembled and inspected in accordance with manufacturers' specifications and standard operating procedures. 3.6. Equipment faults are recorded and reported in accordance with standard operating procedures.
4. Inspect prepared surface	4.1. Surface preparation is assessed for cleanliness and conformance with specifications. 4.2. Faults or defects are rectified where required and inspection results are recorded and reported in accordance with standard operating procedures.

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE
This section describes the skills and knowledge required for this unit.
Required skills
Look for evidence that confirms skills in: • planning and sequencing operations • undertaking numerical operations within the scope of this unit • selecting blasting equipment and media • setting up equipment and consumables • selecting rust inhibitor • conducting pre-operational checks • preparing surfaces using abrasive blasting • disposing of abrasive media

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REQUIRED SKILLS AND KNOWLEDGE
• maintaining blasting equipment • identifying, recording and reporting of faults • inspecting prepared surface • performing rectification work • checking for conformance to specifications
Required knowledge
Look for evidence that confirms knowledge of: • reason for selecting the chosen sequence of operations • blasting equipment and media required • equipment, consumables for various methods • importance of using an appropriate rust inhibitor • process for undertaking pre-operational checks • procedures or using abrasive blasting equipment • procedures for abrasive media disposal • procedures for maintaining and storing blasting equipment • recording/reporting procedures; faulty equipment • checking prepared surfaces • rectification techniques • safe work practices and procedures • hazards and control measures related to abrasive blasting

Evidence Guide

EVIDENCE GUIDE	
The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.	
Overview of assessment	A person who demonstrates competency in this unit must be able to prepare surfaces by abrasive blasting (at a basic level). Competency in this unit cannot be claimed until all prerequisites have been satisfied.
Critical aspects for assessment and evidence required to demonstrate competency in this unit	Assessors must be satisfied that the candidate can competently and consistently perform all elements of the unit as specified by the criteria, including required knowledge, and be capable of applying the competency

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EVIDENCE GUIDE	
	in new and different situations and contexts.
Context of and specific resources for assessment	This unit may be assessed on the job, off the job or a combination of both. Where assessment occurs off the job, i.e. the candidate is not in productive work, an appropriate simulation must be used where the range of conditions reflects realistic workplace situations. The competencies would be demonstrated by an individual working alone or as part of a team. The assessment environment should not disadvantage the candidate. This unit could be assessed in conjunction with any other units addressing the safety, quality, communication, materials handling, recording and reporting associated with preparing surfaces by abrasive blasting (basic) or other units requiring the exercise of the skills and knowledge covered by this unit.
Method of assessment	Assessors should gather a range of evidence that is valid, sufficient, current and authentic. Evidence can be gathered through a variety of ways including direct observation, supervisor's reports, project work, samples and questioning. Questioning should not require language, literacy and numeracy skills beyond those required in this unit. The candidate must have access to all tools, equipment, materials and documentation required. The candidate must be permitted to refer to any relevant workplace procedures, product and manufacturing specifications, codes, standards, manuals and reference materials.
Guidance information for assessment	

Range Statement

RANGE STATEMENT
The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and

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RANGE STATEMENT	
regional contexts) may also be included.	
Blasting processes	Surface preparation using propelled abrasives including water, air steam, grits and blasting mediums
Blasting media	Abrasives, shot, glass beads, sand, steel shot, garnet, and other mediums accepted by industry and all regulatory bodies
Rust inhibitor	A substance which, when added to a corrosive liquid in small amounts, reduces the rate of corrosion
Blasting equipment	Electric and diesel compressors, blast pots, blast rooms, centrifugal blast machines, water pressure washers to 35,000 kpa, air hoses and nozzles, and specified hand and power tools, etc.

Unit Sector(s)

Unit sector	

Co-requisite units

Co-requisite units		

Competency field

Competency field	

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MEM08013B Prepare surfaces by abrasive blasting (advanced)

Modification History

Not Applicable

Unit Descriptor

Unit descriptor	This unit covers performing an advanced level of skill in surface preparation using abrasive blasting.

Application of the Unit

Application of the unit	This unit is designed to be used where an advanced level of skill is desired in surface preparation using abrasive blasting. The operation and maintenance of compressed air systems and associated items, including emergency shut-down procedures, is included. Work is undertaken autonomously or as part of a team environment using accepted standards for safety, quality and procedures. All work and work practices are undertaken to regulatory and legislative requirements. **Band**: **A** **Unit Weight**: **4**

Licensing/Regulatory Information

Not Applicable

Pre-Requisites

Prerequisite units	

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Prerequisite units		
Path 1	MEM08012B	Prepare surfaces by abrasive blasting (basic)
	MEM08016B	Control blast coating by-products, materials and emissions
	MEM13003B	Work safely with industrial chemicals and materials

Employability Skills Information

Employability skills	This unit contains employability skills.

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.

Elements and Performance Criteria

ELEMENT	**PERFORMANCE CRITERIA**
1. Determine job requirements	1.1. Work requirements are determined from job sheet, instructions or other specifications in accordance with standard operating procedures. 1.2. Appropriate abrasive blasting process and equipment are selected to meet job specification. 1.3. Appropriate abrasive blasting media and equipment are selected to meet job specification. 1.4. Work site is prepared for surface cleaning activities.
2. Set up equipment	2.1. Appropriate equipment and any required

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ELEMENT	PERFORMANCE CRITERIA
	consumables are assembled, set up and prepared correctly and safely in accordance with manufacturers' specifications and standard operating procedures. 2.2. Correct rust inhibitor for use in wet abrasive blast methods is selected where required. 2.3. Pre-operational checks are carried out on equipment and faults and are rectified or reported for further action.
3. Inspect surface prior to cleaning	3.1. Work piece is inspected prior to cleaning in accordance with standard operating procedures. 3.2. Identified faults/defects requiring remedial or pre-treatment action are reported as required.
4. Prepare surfaces using abrasive blasting	4.1. Blasting equipment is operated in accordance with standard operating procedures. 4.2. Emergency shut-down procedures can be carried out. 4.3. Work procedures are undertaken to appropriate environmental requirements. 4.4. Abrasive media disposal is carried out in accordance with standard operating procedures. 4.5. Blasting equipment is cleaned and disassembled and inspected in accordance with manufacturers' specifications and standard operating procedures. 4.6. Equipment faults are recorded and reported in accordance with standard operating procedures.
5. Inspect prepared surface	5.1. Surface preparation is assessed for cleanliness and conformance with specifications. 5.2. Faults or defects are rectified where required and inspection results are recorded and reported in accordance with standard operating procedures.

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE
This section describes the skills and knowledge required for this unit.
Required skills

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REQUIRED SKILLS AND KNOWLEDGE
Look for evidence that confirms skills in: • preparing and sequencing operational work plan • selecting blasting process and equipment • selecting appropriate blasting media • setting up equipment • undertaking surface inspection prior to cleaning • reading and interpreting routine information on written job instructions, specifications and standard operating procedures. • following verbal instructions • orally reporting routine information • identifying faults and defects • checking and clarifying task-related information • checking for conformance to specifications
Required knowledge
Look for evidence that confirms knowledge of: • calculations and numerical operations within the scope of this unit • blasting media features • equipment for the selected method • inspection procedures • procedures for using abrasive blasting equipment • procedures for abrasive media disposal • safe work practices and procedures • hazards and control measures associated with preparing surfaces by abrasive blasting, including housekeeping

Evidence Guide

EVIDENCE GUIDE	
The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.	
Overview of assessment	A person who demonstrates competency in this unit must be able to prepare surfaces by abrasive blasting (at an advanced level). Competency in this unit cannot be claimed until all prerequisites have been satisfied.

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EVIDENCE GUIDE	
Critical aspects for assessment and evidence required to demonstrate competency in this unit	Assessors must be satisfied that the candidate can competently and consistently perform all elements of the unit as specified by the criteria, including required knowledge, and be capable of applying the competency in new and different situations and contexts.
Context of and specific resources for assessment	This unit may be assessed on the job, off the job or a combination of both on and off the job. Where assessment occurs off the job, that is the candidate is not in productive work, then an appropriate simulation must be used where the range of conditions reflects realistic workplace situations. The competencies covered by this unit would be demonstrated by an individual working alone or as part of a team. The assessment environment should not disadvantage the candidate. This unit could be assessed in conjunction with any other units addressing the safety, quality, communication, materials handling, recording and reporting associated with preparing surfaces by abrasive blasting (advanced) or other units requiring the exercise of the skills and knowledge covered by this unit.
Method of assessment	Assessors should gather a range of evidence that is valid, sufficient, current and authentic. Evidence can be gathered through a variety of ways including direct observation, supervisor's reports, project work, samples and questioning. Questioning techniques should not require language, literacy and numeracy skills beyond those required in this unit of competency. The candidate must have access to all tools, equipment, materials and documentation required. The candidate must be permitted to refer to any relevant workplace procedures, product and manufacturing specifications, codes, standards, manuals and reference materials.
Guidance information for assessment	

Range Statement

RANGE STATEMENT

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RANGE STATEMENT	
The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.	
Blasting process	Wet, dry, vacuum automatic rotary, centrifugal and water blasting (including HP and UHP)
Blasting media	Garnet, ilmenite, slags, steel grit, steel shot, water, glass bead and soda
Equipment	Blast nozzles, compressors, blast and helmet ventilation, air hoses, blast pots, nozzles, safety equipment etc.

Unit Sector(s)

Unit sector	

Co-requisite units

Co-requisite units		

Competency field

Competency field	Surface finishing

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MEM08014B Apply protective coatings (basic)

Modification History

Not Applicable

Unit Descriptor

Unit descriptor	This unit covers spraying pre-treatments and protective coatings not limited to brush, roller and conventional spray equipment, at a basic level.

Application of the Unit

Application of the unit	This unit is designed to be used where a basic level of skill is required. It covers single and two-pack coatings not containing isocyanates. Work is undertaken autonomously or as part of a team environment using predetermined standards of safety, quality and operating procedures. Specific health and safety matters include interpretation of MSDS warnings, materials sensitivity, hazardous goods, breathable air and introduction of compressed air into the body. Specific understanding is required of given supplier information and product details. Reference is made to supplier information and specifications as well as accepted and appropriate Australian and international standards. Where isocyanates are present, Unit MEM08015B (Apply protective coatings [advanced]) should be selected. Where required, Unit MEM11004B (Undertake dogging) and Unit MEM11010B (Operate mobile load shifting equipment) should also be selected. **Band**: **A** **Unit Weight**: **4**

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Licensing/Regulatory Information

Not Applicable

Pre-Requisites

Prerequisite units		
Path 1	MEM13003B	Work safely with industrial chemicals and materials

Employability Skills Information

Employability skills	This unit contains employability skills.

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.

Elements and Performance Criteria

ELEMENT	**PERFORMANCE CRITERIA**
1. Determine job requirements	1.1. Work requirements are determined from job sheet, instructions, drawings or visual inspection. 1.2. Required protective coating materials are identified according to job specification. 1.3. Required protective coating application equipment is

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ELEMENT	PERFORMANCE CRITERIA
	identified according to job requirements. 1.4. Work site is prepared for application of protective coating.
2. Work piece prepared for application of protective coating	2.1. Surface condition is inspected for readiness for application of protective coating according to specification. 2.2. Unsuitable work pieces/surfaces and fabrication defects are identified and appropriate remedial action or reporting is undertaken in accordance with standard operating procedures. 2.3. Components are masked where protective coating application is not specified. 2.4. Conditions for overspray are identified.
3. Equipment prepared for application of surface coating materials	3.1. Required plant and equipment basic operations are understood. 3.2. Routine maintenance is undertaken on plant and equipment in accordance with standard operating procedures. 3.3. Status/reports are recorded by proforma or orally in accordance with standard operating procedures. 3.4. Conventional coating application equipment is assembled in accordance with equipment requirements and standard operating procedures.
4. Apply single pack coatings	4.1. Coating product type, solvent, uses, mixing procedure, clean-up and safety requirements are identified as appropriate. 4.2. Correct method of determining wet film thickness in accordance with specified dry film is demonstrated. 4.3. Coating material is thinned to suit the application method and to achieve required film thickness. 4.4. Coating is applied using specified application method and standard operating procedures. 4.5. Coating schedules can be outlined for metal and non-metal materials. 4.6. Coating application and curing technique are monitored according to standard operating procedures.
5. Clean and store equipment	5.1. Conventional coating application equipment is cleaned, disassembled and inspected for damage. 5.2. Faulty equipment is recorded and reported to appropriate personnel in accordance with standard

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ELEMENT	PERFORMANCE CRITERIA
	operating procedures. 5.3. Coating application equipment is stored in accordance with standard operating procedures.
6. Inspect finish surface	6.1. Surface finish is assessed for profile size differences and uses. 6.2. Coating thickness is determined using appropriate instruments and results are compared with job specifications. 6.3. Total surface is inspected for conformance to specification in accordance with standard operating procedures. 6.4. Inspection results are recorded and reported in accordance with standard operating procedures.
7. Select and maintain personal protective equipment (PPE)	7.1. Appropriate personal protective equipment for coating application is selected according to job requirements and standard operating procedures. 7.2. Personal protective equipment is used appropriately in accordance with manufacturers' specifications and standard operating procedures. 7.3. Ancillary support attachments are identified and used. 7.4. Personal protective equipment is maintained in accordance with manufacturers' specification and standard operating procedures.

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE
This section describes the skills and knowledge required for this unit.
Required skills
Look for evidence that confirms skills in: • obtaining all relevant drawings, job sheets, specifications and instructions in accordance with workplace procedures • considering all relevant information and job requirements • preparing site with due regard to OH&S requirements including site safety, clear working space, other materials/structures/personnel in the vicinity, isolation of work site where required

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REQUIRED SKILLS AND KNOWLEDGE

- undertaking comprehensive inspection and considering specifications during inspection
- using standard workplace procedures to identify, select and apply the appropriate treatment or actions to rectify items with surface or fabrication defects
- identifying surface required as 'no paint areas' and protecting these using standard masking procedures and techniques
- undertaking precautions to prevent overspray in the workplace using standard procedures
- undertaking routine maintenance on plant and equipment in accordance with standard operating procedures
- preparing all required maintenance records/reports and details communicated
- assembling equipment in accordance with manufacturers' specifications and standard operating procedures
- identifying coating type and appropriate solvents and standard workplace procedures required for mixing processes, clean-up and safe handling
- using workplace procedures for determining the wet film thicknesses of a coating from the specified dry film thickness
- calculating required thickness in accordance with product volume solids
- applying standard operating procedures for thinning coating materials and applying the specified film thickness coating to a substrate
- applying protective coating to comply with an established standard using specified methods and standard operating procedures
- controlling coating application and curing techniques using standard operating procedures
- undertaking disassembly, cleaning and checking for functionality of spraying equipment and associated items in accordance with standard operating procedures
- using standard operating procedures to report on any damage or faulty parts and communicating with appropriate personnel
- following procedure for storage including any hazard reduction and/or protection of equipment and components
- checking surface condition of the work piece, including profile size properties and problems according to standard operating procedures and other acceptable standards
- determining thickness using mechanical, electronic or other appropriate instruments and testing results compared with job specifications, drawings etc.
- undertaking comprehensive inspection as required by standard operating procedures
- preparing all required inspection records/reports and details communicated
- selecting personal protective equipment suitable for applying protective coatings
- using appropriate personal protective equipment in workplace operations in accordance with standard procedures
- selecting the appropriate supports to use with personal protective equipment in standard operational practices

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REQUIRED SKILLS AND KNOWLEDGE
• checking personal protective equipment items for serviceability in accordance with manufacturers' specifications • recording and reporting faulty items to appropriate personnel using standard workplace procedures
Required knowledge
Look for evidence that confirms knowledge of: • work to be undertaken and specifications applying to the work • correct interpretation of all relevant information • safety issues, adequate precautions, awareness of other site factors that could be affected by the work • deviation from specified surface finish/condition • standard workplace procedures for identifying unsuitable work items • method of locating areas to be protected from coating process and masked • the areas subject to overspray and requiring protection • operation of plant and equipment using standard operating procedures • standard operating procedures for plant and equipment maintenance • the requirements for completion and processing of maintenance reports • assembly specifications and procedures • workplace procedures for identifying coating types and processing solvents, mixing and safe handling practices • the workplace procedures for determining the wet film thickness of a coating from the specified dry film thickness • calculations using a specified formulation • standard operating procedure for thinning coating materials for use in applying the specified film thickness coating to a substrate • standard operating procedures to apply protective coatings to comply with an established standard • procedures for controlling coating application and curing techniques • standard operating procedure for disassembly, cleaning and checking • standard operating procedures for recording and reporting defective parts • standard operating procedures for storage and protection of equipment • standard operating procedures and other relevant standards for assessing the profile of the surface finish • dry film thickness testing instruments • standard operating procedures for surface inspection, including the extent and detail of inspection as required • requirements for completion and processing of inspection reports • standard procedure for identifying and selecting the required personal protective equipment • the workplace standard procedure for the use of personal protective equipment

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REQUIRED SKILLS AND KNOWLEDGE
• the use and selection of appropriate supports to use with personal protective equipment in standard operational practices • standard procedures and manufacturers' specifications for inspecting and maintaining personal protective equipment in the workplace • hazard and control measures associated with applying protective coatings (basic) including housekeeping • safe work practices and procedures

Evidence Guide

EVIDENCE GUIDE	
The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.	
Overview of assessment	A person who demonstrates competency in this unit must be able to apply protective coatings (basic). Competency in this unit cannot be claimed until all prerequisites have been satisfied.
Critical aspects for assessment and evidence required to demonstrate competency in this unit	Assessors must be satisfied that the candidate can competently and consistently perform all elements of the unit as specified by the criteria, including required knowledge, and be capable of applying the competency in new and different situations and contexts.
Context of and specific resources for assessment	This unit may be assessed on the job, off the job or a combination of both on and off the job. Where assessment occurs off the job, that is the candidate is not in productive work, then an appropriate simulation must be used where the range of conditions reflects realistic workplace situations. The competencies covered by this unit would be demonstrated by an individual working alone or as part of a team. The assessment environment should not disadvantage the candidate. This unit could be assessed in conjunction with any other units addressing the safety, quality, communication, materials handling, recording and reporting associated with applying protective coatings (basic) or other units requiring the exercise of the skills and knowledge

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EVIDENCE GUIDE	
	covered by this unit.
Method of assessment	Assessors should gather a range of evidence that is valid, sufficient, current and authentic. Evidence can be gathered through a variety of ways including direct observation, supervisor's reports, project work, samples and questioning. Questioning techniques should not require language, literacy and numeracy skills beyond those required in this unit of competency. The candidate must have access to all tools, equipment, materials and documentation required. The candidate must be permitted to refer to any relevant workplace procedures, product and manufacturing specifications, codes, standards, manuals and reference materials.
Guidance information for assessment	

Range Statement

RANGE STATEMENT	
The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.	
Personal protective equipment	Includes hand protection, full body protection, respirators, air fed hoods and foot protection. Noise and heat protection may also be necessary

Unit Sector(s)

Unit sector	

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Co-requisite units

Co-requisite units		

Competency field

Competency field	Surface finishing

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MEM08015B Apply protective coatings (advanced)

Modification History

Not Applicable

Unit Descriptor

Unit descriptor	This unit applies to spraying pre-treatments and protective coatings including conventional, two pack, plural component.

Application of the Unit

Application of the unit	This unit is for use when an advanced level of skill is required. It includes inspection and interpretation of the results using all current industry knowledge and equipment. Test equipment included but not limited to Holiday and Pin Hole testing, wet and dry film thickness gauges, temperature, relative humidity and dew point, hardness, gloss, adhesion and cure testing and soluble salts. Reference is made to supplier information and specifications as well as accepted and appropriate Australian and international standards. All work and work practices undertaken to regulatory and legislative requirements. For application of basic single and two pack coatings not containing isocyanates, Unit MEM08014B (Apply protective coatings [basic]) should be selected. **Band**: **A** **Unit Weight**: **4**

Licensing/Regulatory Information

Not Applicable

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Pre-Requisites

Prerequisite units		
Path 1	MEM08014B	Apply protective coatings (basic)
	MEM13003B	Work safely with industrial chemicals and materials

Employability Skills Information

Employability skills	This unit contains employability skills.

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.

Elements and Performance Criteria

ELEMENT	**PERFORMANCE CRITERIA**
1. Determine job requirements	1.1. Work requirements are determined from job sheet, instructions or other specifications in accordance with standard operating procedures. 1.2. Appropriate coating system and material is selected to meet job specification. 1.3. Appropriate coating process and equipment is selected to meet job specification. 1.4. Work site is prepared for surface coating activities.
2. Work piece prepared for application of	2.1. Surface condition is inspected for readiness for application of protective coating according to

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ELEMENT	PERFORMANCE CRITERIA
protective coating	specification. 2.2. Unsuitable work pieces/surfaces and fabrication defects are identified and appropriate remedial action or reporting is undertaken in accordance with standard operating procedures. 2.3. Components are masked where protective coating application is not specified. 2.4. Conditions for overspray are identified.
3. Equipment is prepared for application of surface coating materials	3.1. Required plant and equipment basic operations are understood. 3.2. Routine maintenance is undertaken on plant and equipment in accordance with standard operating procedures. 3.3. Status/reports are recorded by proforma or orally in accordance with standard operating procedures. 3.4. Coating application equipment is assembled in accordance with equipment requirements and standard operating procedures. 3.5. Personal protective equipment is selected and maintained in accordance with manufacturers' specifications and standard operating procedures.
4. Apply coatings using conventional, airless and plural component equipment	4.1. Coating product type, solvent, uses, mixing procedure, clean-up and safety requirements are identified as appropriate. 4.2. Correct method of determining wet film thickness in accordance with specified dry film is demonstrated. 4.3. Coating material is thinned to suit the application method and to achieve required film thickness. 4.4. Coating is applied using specified application method and standard operating procedures. 4.5. Coating application and curing technique is monitored according to standard operating procedures.
5. Clean and store equipment	5.1. Coating application equipment is cleaned, disassembled and inspected for damage. 5.2. Faulty equipment is recorded and reported to appropriate personnel in accordance with standard operating procedures. 5.3. Coating application equipment is stored in accordance with standard operating procedures.
6. Inspect finished	6.1. Surface finish is assessed for profile size differences

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ELEMENT	PERFORMANCE CRITERIA
surface	and uses. 6.2. Coating thickness is determined using appropriate instruments and results are compared with job specifications. 6.3. Total surface is inspected for conformance to specification in accordance with standard operating procedures. 6.4. Inspection results are recorded and reported in accordance with standard operating procedures.
7. Calculate, estimate and cost application of protective coating	7.1. Surface area of work piece, materials, labour and equipment are assessed. 7.2. Cost of materials, labour, handling and equipment are determined. 7.3. Results are recorded and reported as an estimate for the application of a protective coating system.

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE
This section describes the skills and knowledge required for this unit.
Required skills
Look for evidence that confirms skills in: • obtaining all relevant drawings, job sheets, specifications and instructions in accordance with work place procedures • where appropriate, inspecting the surface(s) to be coated by the individual • selecting correct coating system and material for the job surface and use • selecting correct coating process and equipment for applying the selected coating material • preparing site with due regard to OH&S requirements including site safety, clear working space, other materials/structures/personnel in the vicinity, isolation of work site where required • using standard workplace procedures to identify, select and apply the appropriate treatment or actions to rectify items with surface or fabrication defects • identifying surfaces required as 'no paint areas' and protecting these using standard masking procedures and techniques • undertaking precautions to prevent overspray in the workplace using standard procedures

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REQUIRED SKILLS AND KNOWLEDGE

- undertaking routine maintenance on plant and equipment in accordance with standard operating procedures
- preparing all required maintenance records/reports and communicating details
- assembling equipment in accordance with manufacturers' specifications and standard operating procedures
- selecting appropriate personal protective equipment and maintaining this in accordance with job requirements, manufacturers' specifications, OH&S requirements and standard operating procedures
- inspecting work piece and identifying any faults in accordance with standard operating procedures
- using workplace procedures for determining the wet film thickness of a coating from the specified dry film thickness
- calculating required thickness in accordance with product volume solids
- applying standard operating procedures for thinning coating materials and applying the specified film thickness coating to a substrate
- applying protective coating to comply with an established standard using specified methods and standard operating procedures
- controlling coating application and curing techniques using standard operating procedures
- undertaking disassembly, cleaning and checking for functionality of spraying equipment and associated items in accordance with standard operating procedures
- using standard operating procedures to report on any damage or faulty parts and communicating with appropriate personnel
- following procedure for storage including any hazard reduction and/or protection of equipment and components
- checking surface condition of the work piece, including profile size properties and problems according to standard operating procedures and other acceptable standards
- determining thickness using mechanical, electronic or other appropriate instruments
- comparing test results with job specifications, drawings etc.
- undertaking inspection comprehensively as required by standard operating procedures
- preparing all required inspection records/reports and communicating details
- using appropriate inspection and assessment methods
- undertaking calculations in accordance with standard operating procedures and specifications
- recording and reporting calculated costs in accordance with standard operating procedures

Required knowledge

Look for evidence that confirms knowledge of:

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REQUIRED SKILLS AND KNOWLEDGE

- work to be undertaken
- specifications applying to the work
- appropriate coating system and material required to meet job specification
- features of the various types of coating materials, including drying and curing requirements
- selection procedures for coating material
- appropriate coating process and equipment required for surface coating to meet job specification
- application features of the various types of coating materials and methods
- selection procedures for coating process and equipment, including conventional, airless and plural component
- awareness of other site factors that could be affected by the work
- deviation from specified surface finish/condition
- standard workplace procedures for identifying unsuitable work items
- method of locating areas to be protected from coating process and masked
- the areas subject to overspray and requiring protection
- operation of plant and equipment using standard operating procedures
- standard operating procedures for routine maintenance of plant end equipment
- requirements for completion and processing maintenance reports
- procedure for selecting and maintaining personal protective equipment
- inspection procedure
- unsuitable work pieces in consideration of job specifications
- the workplace procedures for determining wet film thickness of a coating from the specified dry film thickness
- calculations using a specified formulation
- standard operating procedures for thinning coating materials for use in applying the specified film thickness coating to a substrate
- standard operating procedures to apply protective coatings to comply with an established standard
- the procedures for controlling coating application and curing techniques
- standard operating procedure for disassembly, cleaning and checking
- standard operating procedures for recording and reporting defective parts
- standard operating procedures for storage and protection of equipment
- standard operating procedures and other relevant standards for assessing the profile of the surface finish
- dry film thickness testing instruments
- standard operating procedures for surface inspection, including the extent and detail of inspection as required
- the requirements for completion and processing of inspection reports
- the standard methods and procedures for determining surface area of various shapes of materials

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REQUIRED SKILLS AND KNOWLEDGE
• standard procedures for calculating costs • the standard operating procedures for recording and reporting calculated costs • hazard and control measures associated with applying protective coatings (advanced), including housekeeping • safe work practices and procedures

Evidence Guide

EVIDENCE GUIDE	
The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.	
Overview of assessment	A person who demonstrates competency in this unit must be able to apply protective coatings (advanced). Competency in this unit cannot be claimed until all prerequisites have been satisfied.
Critical aspects for assessment and evidence required to demonstrate competency in this unit	Assessors must be satisfied that the candidate can competently and consistently perform all elements of the unit as specified by the criteria, including required knowledge, and be capable of applying the competency in new and different situations and contexts.
Context of and specific resources for assessment	This unit may be assessed on the job, off the job or a combination of both on and off the job. Where assessment occurs off the job, that is the candidate is not in productive work, then an appropriate simulation must be used where the range of conditions reflects realistic workplace situations. The competencies covered by this unit would be demonstrated by an individual working alone or as part of a team. The assessment environment should not disadvantage the candidate. This unit could be assessed in conjunction with any other units addressing the safety, quality, communication, materials handling, recording and reporting associated with applying protective coatings (advanced) or other units requiring the exercise of the skills and knowledge covered by this unit.

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EVIDENCE GUIDE	
Method of assessment	Assessors should gather a range of evidence that is valid, sufficient, current and authentic. Evidence can be gathered through a variety of ways including direct observation, supervisor's reports, project work, samples and questioning. Questioning techniques should not require language, literacy and numeracy skills beyond those required in this unit of competency. The candidate must have access to all tools, equipment, materials and documentation required. The candidate must be permitted to refer to any relevant workplace procedures, product and manufacturing specifications, codes, standards, manuals and reference materials.
Guidance information for assessment	

Range Statement

RANGE STATEMENT	
The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.	

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Unit Sector(s)

Unit sector	

Co-requisite units

Co-requisite units		

Competency field

Competency field	Surface finishing

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MEM08016B Control blast coating by-products, materials and emissions

Modification History

Not Applicable

Unit Descriptor

Unit descriptor	This unit covers identifying, evaluating and controlling blaster coating by-products, materials and emissions.

Application of the Unit

Application of the unit	This unit applies to common containment practices and regulatory waste removal processes, documentation and implementation related to blaster coating by-products, materials and emissions in accordance with regulatory and legislative requirements. **Band**: **A** **Unit Weight**: **1**

Licensing/Regulatory Information

Not Applicable

Pre-Requisites

Prerequisite units		
Path 1	MEM13003B	Work safely with industrial chemicals and materials

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Employability Skills Information

Employability skills	This unit contains employability skills.

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Apply specific health and safety considerations to surface preparation	1.1. Products, hazardous materials and processes used in blaster cleaning and coating operations are identified. 1.2. Safety procedures appropriate to the work requirements are applied. 1.3. Unsafe working conditions are identified and reported to appropriate personnel.
2. Control by-products, materials and emissions	2.1. By-products, materials and emissions are contained using established procedures. 2.2. By-products, materials and emissions are monitored and directed to appropriate treatment or storage area. 2.3. Monitoring devices are checked for correct/continuous operation. 2.4. Status/reports are recorded and reported.
3. Dispose of by-product, materials and emissions	3.1. Waste treatment processes are applied in accordance with standard operating procedures. 3.2. Treatment processes are carried out in accordance with standard operating procedures and to meet relevant authority waste requirements.

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Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE This section describes the skills and knowledge required for this unit.
Required skills
Look for evidence that confirms skills in: • collecting, storing and removing samples of by-products • monitoring and transferring by-product and emissions • checking monitoring devices • implementing waste treatment process • recording and reporting of all results • collecting, storing, removing and sampling by-products
Required knowledge
Required knowledge • Look for evidence that confirms knowledge of: • products, hazardous materials and processes within the scope of this unit • regulatory and legislative requirements relating to control of blast coating by-products, materials and emissions • procedures for collecting samples • by-product collection equipment operation methods • waste control monitoring equipment and procedures • waste treatment processes • requirements and procedures for recording and reporting process status reports • hazards and control measures associated with controlling blast coating by-products, materials and emissions • use and application of personal protective equipment • safe work practices and procedures

Evidence Guide

EVIDENCE GUIDE
The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment

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EVIDENCE GUIDE	
Guidelines for the Training Package.	
Overview of assessment	Assessors must be satisfied that the candidate can competently and consistently perform all elements of the unit as specified by the criteria, including required knowledge, and be capable of applying the competency in new and different situations and contexts.
Critical aspects for assessment and evidence required to demonstrate competency in this unit	This unit may be assessed on the job, off the job or a combination of both on and off the job. Where assessment occurs off the job, that is the candidate is not in productive work, then an appropriate simulation must be used where the range of conditions reflects realistic workplace situations. The competencies covered by this unit would be demonstrated by an individual working alone or as part of a team. The assessment environment should not disadvantage the candidate. This unit could be assessed in conjunction with any other units addressing the safety, quality, communication, materials handling, recording and reporting associated with controlling blast coating by-products, materials and emissions or other units requiring the exercise of the skills and knowledge covered by this unit.
Context of and specific resources for assessment	Assessors should gather a range of evidence that is valid, sufficient, current and authentic. Evidence can be gathered through a variety of ways including direct observation, supervisor's reports, project work, samples and questioning. Questioning techniques should not require language, literacy and numeracy skills beyond those required in this unit of competency. The candidate must have access to all tools, equipment, materials and documentation required. The candidate must be permitted to refer to any relevant workplace procedures, product and manufacturing specifications, codes, standards, manuals and reference materials.
Method of assessment	Assessors must be satisfied that the candidate can competently and consistently perform all elements of the unit as specified by the criteria, including required knowledge, and be capable of applying the competency in new and different situations and contexts.
Guidance information for assessment	

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Range Statement

RANGE STATEMENT	
The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.	
Products, **hazardous materials and processes**	All products, hazardous materials and processes that are subject to codes and/or regulations in use
Monitoring devices	pH meters, probes
Waste treatment processes	Neutralisation, metals precipitation, solid separation-gravity/centrifuging

Unit Sector(s)

Unit sector	

Co-requisite units

Co-requisite units		

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Competency field

Competency field	Surface finishing

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MEM09002B Interpret technical drawing

Modification History

Not Applicable

Unit Descriptor

Unit descriptor	This unit covers interpreting technical drawing applying to any of the full range of engineering disciplines.

Application of the Unit

Application of the unit	Technical drawings may utilise perspective, exploded views or hidden view techniques. Drawings are provided to Australian Standard 1100 and/or Australian Standard 1102 and their equivalents from the full range of engineering disciplines. Standard symbols to Australian Standard 1100 and/or Australian Standard 1102 or equivalent are recognised in field of employment. Technical drawings may include symbol glossaries. Where any drawing, sketch, chart, diagram is only used as the technique for communication, then this unit does not apply: see Unit MEM12023A (perform engineering measurements) or Unit MEM16006A (Organise and communicate information). **Band**: **A** **Unit Weight**: **4**

Licensing/Regulatory Information

Not Applicable

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Pre-Requisites

Prerequisite units		

Employability Skills Information

Employability skills	This unit contains employability skills.

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.

Elements and Performance Criteria

ELEMENT	**PERFORMANCE CRITERIA**
1. Select correct technical drawing	1.1. Drawing is checked and validated against job requirements or equipment. 1.2. Drawing version is checked and validated.
2. Interpret technical drawing	2.1. Components, assemblies or objects are recognised as required. 2.2. Dimensions are identified as appropriate to field of employment. 2.3. Instructions are identified and followed as required. 2.4. Material requirements are identified as required. 2.5. Symbols are recognised in the drawing as appropriate.

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Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

Look for evidence that confirms skills in:

- checking the drawing against job requirements/related equipment in accordance with standard operating procedures
- confirming the drawing version as being current in accordance with standard operating procedures
- where appropriate, obtaining the current version of the drawing in accordance with standard operating procedures
- reading, interpreting information on the drawing, written job instructions, specifications, standard operating procedures, charts, lists and other applicable reference documents
- checking and clarifying task related information
- undertaking numerical operations, geometry and calculations/formulae within the scope of this unit

Required knowledge

Look for evidence that confirms knowledge of:

- application of AS1100.101 in accordance with standard operating procedures
- relationship between the views contained in the drawing
- objects represented in the drawing
- units of measurement used in the preparation of the drawing
- dimensions of the key features of the objects depicted in the drawing
- understanding of the instructions contained in the drawing
- the actions to be undertaken in response to those instructions
- the materials from which the object(s) are made
- any symbols used in the drawing as described in range statement
- hazard and control measures associated with interpreting technical drawings, including housekeeping
- safe work practices and procedures

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Evidence Guide

EVIDENCE GUIDE	
The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.	
Overview of assessment	A person who demonstrates competency in this unit must be able to interpret technical drawings as described.
Critical aspects for assessment and evidence required to demonstrate competency in this unit	Assessors must be satisfied that the candidate can competently and consistently perform all elements of the unit as specified by the criteria, including required knowledge, and be capable of applying the competency in new and different situations and contexts.
Context of and specific resources for assessment	This unit may be assessed on the job, off the job or a combination of both on and off the job. Where assessment occurs off the job, that is the candidate is not in productive work, then an appropriate simulation must be used where the range of conditions reflects realistic workplace situations. The competencies covered by this unit would be demonstrated by an individual working alone or as part of a team. The assessment environment should not disadvantage the candidate. This unit could be assessed in conjunction with any other units addressing the safety, quality, communication, materials handling, recording and reporting associated with interpreting technical drawings or other units requiring the exercise of the skills and knowledge covered by this unit.
Method of assessment	Assessors should gather a range of evidence that is valid, sufficient, current and authentic. Evidence can be gathered through a variety of ways including direct observation, supervisor's reports, project work, samples and questioning. Questioning should not require language, literacy and numeracy skills beyond those required in this unit. The candidate must have access to all tools, equipment, materials and documentation required. The candidate must be permitted to refer to any relevant workplace procedures, product and manufacturing specifications, codes, standards, manuals and reference materials.
Guidance information for assessment	

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Range Statement

RANGE STATEMENT	
The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.	
Interpret technical drawing	AS1100.101 is an extensive work and the candidate is not required to have complete familiarity with all its contents, the application of AS1100 would usually be in line with standard operating procedures; interpretation may require guidance particularly in respect to any geometric tolerancing

Unit Sector(s)

Unit sector	

Co-requisite units

Co-requisite units		

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Competency field

Competency field	Drawing, drafting and design

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MEM09009C Create 2D drawings using computer aided design system

Modification History

Not Applicable

Unit Descriptor

Unit descriptor	This unit covers preparing the CAD environment, creating 2D drawings, and producing output including linked bills of materials.

Application of the Unit

Application of the unit	This unit applies to the production of 2D drawings using a CAD system, linked bills of material, file management and associated customisation of installed software including the use of macros, menus and default settings; file formats may include IGES, DXF, HPGL. The unit applies to the fields of mechanical, electrical/electronic, fabrication, and fluid power. 2D drawings may be produced from 3D models created using computer aided design system. This unit covers CAD skills only. Where detail drafting skills are required, the following units should be considered: Unit MEM09004B (Perform electrical/electronic detail drafting), Unit MEM09005B (Perform basic engineering detail drafting), Unit MEM09006B (Perform advanced engineering detail drafting). **Band**: **B** **Unit Weight**: **8**

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Licensing/Regulatory Information

Not Applicable

Pre-Requisites

Prerequisite units		
Path 1	MEM09002B	Interpret technical drawing
	MEM16008A	Interact with computing technology

Employability Skills Information

Employability skills	This unit contains employability skills.

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.

Elements and Performance Criteria

ELEMENT	**PERFORMANCE CRITERIA**
1. Prepare CAD environment	1.1. System variables are customised to suit standard operating procedures. 1.2. Menus are customised to suit standard operating procedures. 1.3. Drawing defaults are customised to standard operating procedures. 1.4. Macros are developed to standard operating procedures.

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ELEMENT	PERFORMANCE CRITERIA
2. Create 2D drawings	2.1. Drawings are created using the full capability of the available software system. 2.2. Drawing entities are linked to database attributes to suit job requirements. 2.3. Detailed views are created using various scales to meet job requirements.
3. Produce output	3.1. Files are saved in various formats to standard operating procedures. 3.2. Linked entities are listed in a bill of materials format to meet job requirements. 3.3. Supplementary data is extracted from drawing to meet job requirements and may include area, lengths, angles and perimeters.

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

Look for evidence that confirms skills in:

- obtaining all relevant manuals, instructions and operation procedures for the CAD software and hardware being used
- where appropriate, customising the relevant system variables to suit the applicable drafting standards/procedures
- where appropriate, customising menus to suit the applicable drafting standards/procedures
- where appropriate, customising the system defaults to suit the applicable drafting standards/procedures
- where appropriate, developing macros
- creating drawings using the appropriate drawing features of the software system
- where appropriate, linking drawing entities to database attributes
- producing detailed views of the object being drawn
- printing drawing files at the appropriate scale
- saving drawing files in the appropriate format
- producing bills of material from the drawing files/database
- extracting supplementary data from the drawing file to meet job requirements

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REQUIRED SKILLS AND KNOWLEDGE

- reading, interpreting and following information on written job instructions, specifications, standard operating procedures, charts, lists, drawings and other applicable reference documents
- planning and sequencing operations
- checking and clarifying task related information
- checking for conformance to specifications
- undertaking numerical operations, geometry and calculations/formulae within the scope of this unit

Required knowledge

Look for evidence that confirms knowledge of:

- CAD software system
- system variables that can be customised
- procedures for customising identified system variables
- reasons for customising the system variables
- applicable drafting standards/procedures
- procedures for customising menus
- reasons for customising menus
- procedures for customising system defaults
- reasons for customising system defaults
- procedures for developing macros
- reasons for developing macros
- drawing features of the CAD software system
- reasons for using specialised software features
- procedures for linking drawing entities to database attributes
- appropriate drawing scales
- procedures for printing drawing files
- procedures for creating additional views of the object being drawn
- procedures for saving drawing files
- various formats in which drawing files can be saved
- reasons for using different formats when saving drawing files
- procedures to produce bills of material
- procedures to extract data with respect to drawn shapes/features
- properties of shapes/sections/ features that can be extracted from the drawing file
- hazards and control measures associated with using computer aided design system, including housekeeping
- safe work practices and procedures

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Evidence Guide

EVIDENCE GUIDE	
The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.	
Overview of assessment	A person who demonstrates competency in this unit must be able to create 2D drawings using computer aided design system. Competency in this unit cannot be claimed until all prerequisites have been satisfied.
Critical aspects for assessment and evidence required to demonstrate competency in this unit	Assessors must be satisfied that the candidate can competently and consistently perform all elements of the unit as specified by the criteria, including required knowledge, and be capable of applying the competency in new and different situations and contexts.
Context of and specific resources for assessment	This unit may be assessed on the job, off the job or a combination of both on and off the job. Where assessment occurs off the job, that is the candidate is not in productive work, then an appropriate simulation must be used where the range of conditions reflects realistic workplace situations. The competencies covered by this unit would be demonstrated by an individual working alone or as part of a team. The assessment environment should not disadvantage the candidate. This unit could be assessed in conjunction with any other units addressing the safety, quality, communication, materials handling, recording and reporting associated with creating 2D drawings using computer aided design system or other units requiring the exercise of the skills and knowledge covered by this unit.
Method of assessment	Assessors should gather a range of evidence that is valid, sufficient, current and authentic. Evidence can be gathered through a variety of ways including direct observation, supervisor's reports, project work, samples and questioning. Questioning techniques should not require language, literacy and numeracy skills beyond those required in this unit of competency. The candidate must have access to all tools, equipment, materials and documentation required. The candidate must be permitted to refer to any relevant workplace procedures, product and manufacturing specifications, codes, standards, manuals and reference materials.

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EVIDENCE GUIDE	
Guidance information for assessment	

Range Statement

RANGE STATEMENT	
The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.	
Drawing	Include plans, diagrams, charts, electrical/electronic circuits
Entities	Mean any single item created on the screen and includes for example lines, arcs, circles, text, hatch and dimensions
Attributes	Mean properties associated with an entity and includes for example layer or level, line type, line width, colour and text

Unit Sector(s)

Unit sector	

Co-requisite units

Co-requisite units		

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Co-requisite units		

Competency field

Competency field	Drawing, drafting and design

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MEM09204A Produce basic engineering detail drawings

Modification History

Release 1 - New unit of competency

Unit Descriptor

This unit of competency covers the skills and knowledge required to identify drawing requirements, preparing engineering drawings and an engineering parts list, and issuing the drawings. Drawings include 2-D drawings to Australian Standard (AS) 1100.101–1992 Technical drawing – General principles.

Application of the Unit

This unit is suitable for those working within a drafting work environment where most specifications required for the drawing are already determined. Specifications may be obtained from design information, customer requirements, sketches and preliminary layouts. Drawings will usually be carried out with the use of computer-aided design (CAD) systems but may also be done manually. Drawings are produced to AS 1100.101–1992 Technical drawing – General principles, from predetermined critical dimensions and specifications.

If a CAD system is used, the unit MEM30031A Operate computer-aided design (CAD) system to produce basic drawing elements, should also be selected.

This unit applies to all engineering and manufacturing environments.

Licensing/Regulatory Information

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

Pre-Requisites

MEM09002B Interpret technical drawing

Employability Skills Information

This unit contains employability skills

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Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.

Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.

Elements and Performance Criteria

1	Determine drawing requirements	1.1	Check purpose, scope and information requirements for drawing
		1.2	Interpret available information relevant to project and work requirements, and identify and address further information needs
		1.3	Identify and prepare equipment required to complete work
		1.4	Examine requirements for presentation of drawings
		1.5	Confirm communication requirements during project
2	Produce detail drawing	2.1	Prepare drawings in plane orthogonal, or equivalent
		2.2	Apply standard drawing conventions, including dimensions, required method of projection, and full notation
		2.3	Use drawing techniques according to work requirements
		2.4	Apply industry symbols and ensure presentation meets industry standard
3	Prepare engineering parts list	3.1	Identify components or parts and organise by component type and/or in accordance with organisation/customer requirements
		3.2	Prepare parts list in accordance with organisation/customer requirements

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4	Complete drawing task	4.1	Check and confirm dimensions, angles and proportions
		4.2	Ensure drawing is presented according to organisational requirements and contains all relevant and accurate information
		4.3	Issue and file drawing according to workplace procedure
		4.4	Evaluate work and identify areas for improvement
		4.5	Plot or print the final drawing to a standard scale

Required Skills and Knowledge

Required skills

Required skills include:

- literacy skills sufficient to read and interpret instructions and specifications for drawing work
- obtaining all relevant job requirements, data/information and specifications necessary to produce the drawing in accordance with workplace procedures
- planning and sequencing operations
- checking and clarifying task-related information
- using computer technologies and navigating software
- numeracy skills sufficient to interpret technical information and conduct mathematical problem solving as required in the scope of this unit
- applying spatial principles to achieve scale and proportion
- using drafting equipment appropriate to the drawing method chosen
- recording completed drawings and/or parts lists in accordance with standard operating procedures
- handling and storing the approved drawings and/or parts lists in accordance with standard operating procedures

Required knowledge

Required knowledge includes:

- general knowledge of different approaches to drawing
- awareness of copyright and intellectual property issues and legislation in relation to drawing
- environmental and occupational health and safety (OHS) issues associated with the tools and materials used for drawing
- quality assurance procedures

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- principles of plane geometry:
  - geometric shapes
  - plane geometry
  - geometric construction
  - line types during construction
- drawing construction:
  - four centre method
  - ordinate method
  - sectioning isometric shapes
  - dimensions and notations
- requirements and purpose of the drawing to be produced
- requirements and purpose of the engineering parts list
- sources of relevant data/information
- timeframe for completion of drawings
- persons who can confirm drawing requirements

Evidence Guide

The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria required skills and knowledge range statement and the Assessment Guidelines for the Training Package.

Overview of assessment	A person who demonstrates competency in this unit must be able to use interpret and apply drawing specifications, and produce a complete drawing to AS 1100.101–1992 Technical drawing – General principles, using manual or CAD tools.
Critical aspects for assessment and evidence required to demonstrate competency in this unit	Assessors must be satisfied that the candidate can competently and consistently perform all elements of the unit as specified by the criteria, including required knowledge, and be capable of applying the competency in new and different situations and contexts. Specifically the candidate must be able to: • work within typical site/teamwork structures and methods • apply worksite communication procedures • comply with organisational policies and procedures, including quality requirements

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	• participate in work meetings • comply with quality requirements • use industry terminology • apply appropriate safety procedures • interpret work and design specifications and use reference material to obtain required information for drawing work • produce a detailed engineering drawing to AS 1100.101–1992 Technical drawing – General principles, and according to work requirements.
Context of and specific resources for assessment	This unit may be assessed on the job, off the job or a combination of both on and off the job. Where assessment occurs off the job, that is the candidate is not in productive work, then an appropriate simulation must be used where the range of conditions reflects realistic workplace situations. The competencies covered by this unit would be demonstrated by an individual working alone or as part of a team. Where applicable, reasonable adjustment must be made to work environments and training situations to accommodate ethnicity, age, gender, demographics and disability. Access must be provided to appropriate learning and/or assessment support when required. Where applicable, physical resources should include equipment modified for people with disabilities. This unit could be assessed in conjunction with any other units addressing the safety, quality, communication, materials handling, recording and reporting associated with drafting or other units requiring the exercise of the skills and knowledge covered by this unit.
Method of assessment	Assessors should gather a range of evidence that is valid, sufficient, current and authentic. Evidence can be gathered through a variety of ways, including direct observation, supervisor's reports, project work, samples and questioning. Questioning techniques should not require language, literacy and numeracy skills beyond those required in this unit of competency. The candidate must have access to all tools, equipment, materials and documentation required. The candidate must be permitted to refer to any relevant workplace procedures, product and manufacturing specifications, codes, standards,

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	manuals and reference materials.

Range Statement

Standard drawing conventions	Standard drawing conventions include: • use of correct sectioning technique • identification of cutting plane • accurate line types • appropriate view positions • use of correct symbols • use of correct dimensioning technique • provision of suitable number of views • use of correct scales • neat presentation

Drawing techniques	Drawing techniques may include:
	• orthogonal projection:
	  • first angle projection
	  • third angle projection
	  • projection symbol
	  • preferred system of projection in Australia
	  • number of views
	  • relationship of views
	• sheet format:
	  • borders and title blocks
	  • application of projection symbol
	  • drawing sheets and sizes
	  • lettering styles
	  • Australian Standards
	• dimensioning:
	  • unidirectional dimensioning
	  • aligned dimensioning
	  • projection and dimension lines
	  • arrow heads
	  • dimension placement
	• scale drawing:
	  • recommended scales
	  • reduction scales
	  • enlargement scales

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	• multiple scales • dimensioning techniques of scale drawings • sectioning: • types of sections • required section views • placement of views • cutting planes • labelling of cutting planes and section views • general notes

Unit Sector(s)

Drawing, drafting and design

Custom Content Section

Not applicable.

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MEM09210A Create 3-D solid models using computer-aided design (CAD) system

Modification History

Release 1 - New unit of competency

Unit Descriptor

This unit covers preparing the 3-D computer-aided drafting (CAD) environment, creating and modifying 3-D solid models, and producing output from the 3-D model.

Application of the Unit

This unit is suitable for those working within a drafting work environment and may be applied across a range of engineering disciplines. This unit applies to the production of 3-D solid models using CAD modelling software. Operations at this level include, but are not limited to, the creation and manipulation of entities, such as arcs, lines and primitives, such as spheres, cones, cylinders and boxes. It includes the use of region and solid modelling techniques, section views, and pre-drawn library files. Work also includes extraction of properties and application of basic rendering techniques.

This unit includes applications in CAD, computer graphics and animation, rapid prototyping, medical testing and visualisation of scientific research.

Licensing/Regulatory Information

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

Pre-Requisites

MEM09002B	Interpret technical drawing
MEM30031A	Operate computer-aided design (CAD) system to produce basic drawing elements

Employability Skills Information

This unit contains employability skills.

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Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.

Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.

Elements and Performance Criteria

1	Determine solid modelling requirements	1.1	Check purpose, scope and information requirements for modelling task
		1.2	Interpret available information relevant to project and work requirements, and identify and address further information needs
		1.3	Identify and prepare equipment required to complete work
		1.4	Identify and apply relevant codes, standards and symbols relevant to work
		1.5	Consult appropriate personnel to ensure the work is coordinated effectively with others involved in the project
		1.6	Obtain and apply workplace occupational health and safety (OHS) and environmental procedures for work
2	Prepare 3-D environment	2.1	Apply workplace procedures to retrieve and manipulate required information and navigate computing technology
		2.2	Set up a 3-D environment on the screen to allow multiple viewing
		2.3	Create 3-D views on the screen by manipulating drawing planes and inserting 3-D geometric shapes
		2.4	Establish coordinate system and orientation according to job requirements
		2.5	Determine and exploit key features of solid modelling software package

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3	Produce output from 3-D model	3.1	Perform drawing for solid modelling
		3.2	Exploit features of modelling software to optimise productivity
		3.3	Extract physical properties to job requirement, including volume, mass and centre of gravity
		3.4	Apply rendering techniques
		3.5	Produce 3-D drawings incorporating section views with all necessary annotation
4	Complete CAD operations	4.1	Confirm model accurately reflects specifications, is presented according to work requirements and contains all relevant information
		4.2	Save and file drawing elements according to organisational procedure
		4.3	Evaluate work and identify areas for improvement
		4.4	Close applications, perform CAD housekeeping and maintain organisational filing system

Required Skills and Knowledge

Required skills

Required skills include:

- using computing technologies and navigating software
- obtaining relevant job instructions and specifications
- creating the appropriate entities in 3-D space
- manipulating the entities in 3-D space
- creating swept, extruded and revolved solids in 3-D space
- modifying, where appropriate, existing 3-D models
- saving drawing files in the appropriate format
- extracting the physical properties of shapes created in 3-D space from the drawing file to meet job requirements
- reading, interpreting and following information on written job instructions, specifications, standard operating procedures, charts, lists, drawings and other applicable

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reference documents
- checking and clarifying task-related information
- checking for conformance to specifications
- undertaking numerical operations, geometry and calculations/formulae within the scope of this unit
- creating intelligent models using parametric modelling
- producing composite models (composite regions and composite solids)
- producing sectioned models (cutting planes and cross hatching)
- using pre-drawn library files and primitives to produce a 3-D model
- extracting mass and area properties from solid model
- applying rendering techniques to a 3D model (rendering types and preferences, render lighting techniques, and views and scenes)
- using various materials and surface finish options
- producing hard copies of 3-D solid models
- saving 3-D models in various file formats for retrieval into other CAD application software
- producing orthogonal detail drawings of components on standard drawing sheets to a recognised drafting scale

Required knowledge

Required knowledge includes:

- purpose for which the 3-D model is to be developed
- appropriate coordinate system for the job
- reasons for selecting the chosen coordinate system
- orientation of the model with respect to the coordinate system
- number of views required to establish the model
- procedures for creating entities in 3-D space
- the entities that can be created/manipulated in 3-D space
- procedures for manipulating entities in 3-D space
- procedures for creating swept, extruded and revolved solids in 3-D space
- applications of swept, extruded and revolved solids
- procedures for modifying existing 3-D models
- rendering types and preferences, render lighting techniques, views and scenes
- procedures for saving drawing files
- the various formats in which drawing files can be saved
- reasons for using different formats when saving drawing files
- procedures for extracting data with respect to the physical properties of shapes created in 3-D space
- the physical properties of shapes created in 3-D space that can be extracted from the drawing file
- hazard and control measures associated with using CAD system, including housekeeping
- safe work practices and procedures
- terminology associated with solid modelling (region modelling, solid modelling, and

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wire frame, as opposed to solids)
- region modelling techniques (creating a region primitive and editing regions)
- solid modelling techniques (creating solid primitives, editing solid primitives, and conversion from region to solid models)

Evidence Guide

The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria required skills and knowledge range statement and the Assessment Guidelines for the Training Package.

Overview of assessment	A person who demonstrates competency in this unit must be able to create 3-D models using CAD systems.
Critical aspects for assessment and evidence required to demonstrate competency in this unit	Assessors must be satisfied that the candidate can competently and consistently perform all elements of the unit as specified by the criteria, including required knowledge, and be capable of applying the competency in new and different situations and contexts. Specifically the candidate must be able to: • work within typical site/teamwork structures and methods • apply worksite communication procedures • comply with organisational policies and procedures, including quality requirements • participate in work meetings • comply with quality requirements • use industry terminology • apply appropriate safety procedures • select and use 3-D CAD software to create solid models that meet design specifications.
Context of and specific resources for assessment	This unit may be assessed on the job, off the job or a combination of both on and off the job. Where assessment occurs off the job, that is the candidate is not in productive work, then an appropriate simulation must be used where the range of conditions reflects realistic workplace situations. The competencies covered by this unit would be demonstrated by an individual working alone or as part of a team. The assessment environment should not disadvantage the candidate.

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	This unit could be assessed in conjunction with any other units addressing the safety, quality, communication, materials handling, recording and reporting associated with creating 3-D models using CAD systems or other units requiring the exercise of the skills and knowledge covered by this unit
Method of assessment	Assessors should gather a range of evidence that is valid, sufficient, current and authentic. Evidence can be gathered through a variety of ways, including direct observation, supervisor's reports, project work, samples and questioning. Questioning techniques should not require language, literacy and numeracy skills beyond those required in this unit of competency. The candidate must have access to all tools, equipment, materials and documentation required. The candidate must be permitted to refer to any relevant workplace procedures, product and manufacturing specifications, codes, standards, manuals and reference materials.

Range Statement

Solid modelling task	Solid modelling task may include: • terminology • region modelling • solid modelling • parametric modelling • composite models • section models • library files and 3-D primitives • other relevant software packages for the production of 3-D models • mass and area properties • rendering techniques • material finishes • production of hard copies • saving and retrieval of files of varying formats • consolidation (e.g. project work)
Rendering techniques	Rendering techniques may include: • rendering types and preferences • render lighting techniques

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	• views and scenes
Appropriate personnel	Appropriate personnel may include: • supervisor • leading hand • foreman • manager • site engineer • trainer • mentor • teacher • team member
OHS requirements	OHS requirements may include: • legislation • personal protective equipment • material safety management systems • hazardous substances and dangerous goods code • awards provisions • safe work practices
Environmental requirements	Environmental requirements may refer to: • liquid waste • solid waste • gas, fume, vapour, and smoke emissions, including fugitive emissions • excessive energy and water use • excessive noise
Resource requirements	Resource requirements may include: • computer software • stationary • software reference documentation • reference texts • consumables • computer • printing equipment

Unit Sector(s)

Drawing, drafting and design

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Custom Content Section

Not applicable.

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MEM10002B Terminate and connect electrical wiring

Modification History

Not Applicable

Unit Descriptor

Unit descriptor	This unit covers terminating, disconnecting or reconnecting electrical wiring and circuits.

Application of the Unit

Application of the unit	This unit applies to the connection of wiring and includes termination and connection of all types of cords and cables, excluding specialist cables. All testing is undertaken on completed circuits where these are not connected to main supply, using appropriate methods such as continuity and resistance checks. Specifications are obtained from electrical/electronic circuit drawings and data sheets. Soldering/desoldering of electrical/electronic components may also require the selection of Unit MEM05001B (Perform manual soldering/desoldering - electrical/electronic components) or Unit MEM05002B (Perform high reliability soldering and desoldering) as applicable. This unit does not cover the competencies required for energising and testing of the circuit. If these skills are required, the competencies covered in Unit MEM10003B (Install and test electrical wiring and circuits up to 1000 volts a.c. and 1500 volts d.c.) must be satisfied. Termination and connection of specialist cables such as mineral insulated, steel wire, armoured cables etc., is covered in Unit MEM10011B (Terminate and connect specialist cables). **Band**: **A**

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	Unit Weight: **3**

Licensing/Regulatory Information

Not Applicable

Pre-Requisites

Prerequisite units		
Path 1	MEM09002B	Interpret technical drawing
	MEM12002B	Perform electrical/electronic measurement
	MEM18001C	Use hand tools

Employability Skills Information

Employability skills	This unit contains employability skills.

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.

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Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Prepare for electrical wiring termination and connection	1.1. All work is undertaken safely and to workplace procedures and State/Territory regulations and legislative requirements. 1.2. Materials are checked for correct specifications. 1.3. Preparation of work is undertaken or checked/inspected for correct location and specifications.
2. Connect electrical wiring	2.1. Terminations/connections are made to specifications, manufacturers' requirements and to safety and State/Territory regulations and legislative requirements. 2.2. All brackets, clamps, holders etc. are adjusted and fixed to specifications. 2.3. All cables, wires, conductors and connections etc. are marked/tagged and labelled to specification. 2.4. All completed wiring and connections are tested for compliance with specifications. 2.5. All reports and documentation are completed correctly to required specifications.

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

Look for evidence that confirms skills in:

- checking materials for conformance to specifications
- checking existing and new installation site for correct location and specification
- making terminations/connections to specification, manufacturer and regulatory requirements
- adjusting and fixing wiring supports
- marking, tagging and labelling cables, wires, conductors and connections to specification
- undertaking testing of wiring and connections for conformance to specification
- using language and literacy skills to complete short reports and required

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REQUIRED SKILLS AND KNOWLEDGE
documentation • reading and interpreting routine information on written job instructions, specifications and standard operating procedures May include drawings • using measurements for checking connections and components
Required knowledge
Look for evidence that confirms knowledge of: • safety hazards associated with the termination and connection of electrical wiring • statutory and regulatory requirements associated with the termination and connection of electrical wiring • wiring support and/or protection requirements and specifications • relevant manufacturer requirements • specifications and methods for terminating different materials • wiring support techniques and alternatives • marking, tagging and labelling requirements for cables, wires, conductors and connections • tests for wiring and connections • data to be recorded/reported and the frequency of recording/reporting • requirements for approval to work • use and application of personal protective equipment for terminating and connecting electrical wiring

Evidence Guide

EVIDENCE GUIDE	
The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.	
Overview of assessment	A person who demonstrates competency in this unit must be able to terminate and connect electrical wiring. Competency in this unit cannot be claimed until all prerequisites have been satisfied.
Critical aspects for assessment and evidence required to demonstrate competency in this unit	Assessors must be satisfied that the candidate can competently and consistently perform all elements of the unit as specified by the criteria, including required knowledge, and be capable of applying the competency

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EVIDENCE GUIDE	
	in new and different situations and contexts.
Context of and specific resources for assessment	This unit may be assessed on the job, off the job or a combination of both on and off the job. Where assessment occurs off the job, that is the candidate is not in productive work, then an appropriate simulation must be used where the range of conditions reflects realistic workplace situations. The competencies covered by this unit would be demonstrated by an individual working alone or as part of a team. The assessment environment should not disadvantage the candidate. This unit could be assessed in conjunction with any other units addressing the safety, quality, communication, materials handling, recording and reporting associated with terminating and connecting electrical wiring or other units requiring the exercise of the skills and knowledge covered by this unit.
Method of assessment	Assessors should gather a range of evidence that is valid, sufficient, current and authentic. Evidence can be gathered through a variety of ways including direct observation, supervisor's reports, project work, samples and questioning. Questioning techniques should not require language, literacy and numeracy skills beyond those required in this unit of competency. The candidate must have access to all tools, equipment, materials and documentation required. The candidate must be permitted to refer to any relevant workplace procedures, product and manufacturing specifications, codes, standards, manuals and reference materials.
Guidance information for assessment	

Range Statement

RANGE STATEMENT
The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work

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RANGE STATEMENT	
situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.	
State/Territory regulations and legislative requirements	Applicable acts, regulations, codes of practice, Australian standards, International standards
Correct location and specifications	Cable trays, brackets, trenches
Electrical wiring	Wiring associated with power, lighting, control wiring, machinery, switchboards and other electrical apparatus
Terminations/connections	Utilisation of a range of methods including clamping, crimping, pin connection, soldered joints, plugs, sockets etc., clamping of cables and wires, sealing entry points where required

Unit Sector(s)

Unit sector	

Co-requisite units

Co-requisite units		

Competency field

Competency field	Installation and commissioning

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MEM11001C Erect/dismantle scaffolding and equipment

Modification History

Not Applicable

Unit Descriptor

Unit descriptor	This unit covers erecting and dismantling scaffolding and equipment.

Application of the Unit

Application of the unit	This unit applies to erecting scaffolding for maintenance and installation in a workshop and in factories, manufacturing plants and warehouses. It includes preparation, erection and dismantling of the scaffolding/equipment. An awareness of licensing and permit requirements is required. **Band**: **A** **Unit Weight**: **4**

Licensing/Regulatory Information

Refer to Application of the Unit

Pre-Requisites

Prerequisite units		
Path 1	MEM18001C	Use hand tools

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Employability Skills Information

Employability skills	This unit contains employability skills.

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Prepare to erect scaffold/equipment	1.1. Site plans, scaffolding/equipment designs and drawings to industry practices are interpreted as necessary. 1.2. Work area is inspected to identify hazards and appropriate prevention/control measures are implemented to avoid hazard. 1.3. All work is undertaken safely and to prescribed procedures.
2. Erect scaffold/equipment	2.1. Erection site is prepared to meet job requirements. 2.2. Necessary signage and barriers and third party protection measures are placed in appropriate position. 2.3. Appropriate scaffolding/equipment components are selected and inspected and damaged components are labelled and rejected. 2.4. Rejected components are repaired or sent for repair. 2.5. Scaffolding/equipment is erected to plan and in accordance with safe work practices, Australian standards, State and Territory legislative requirements and equipment manufacturers' requirements.

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ELEMENT	PERFORMANCE CRITERIA
	2.6. The completed scaffolding/equipment is checked for safety and operational requirements. 2.7. Site is left clear of all surplus components, equipment, tools and debris.
3. Inspect, repair and alter scaffold/equipment	3.1. The scaffolding/equipment is inspected for damage, corrosion and wear. 3.2. Any alteration or repair is carried out in accordance with safe work practices and legislative requirements. 3.3. Any inspection log is completed as required.
4. Dismantle scaffold/equipment	4.1. Work is undertaken safely and to prescribed procedure. 4.2. Scaffolding/equipment is inspected for damage, corrosion or wear and is noted for consideration in planning for dismantling. 4.3. Scaffolding/equipment is dismantled in accordance with site procedures, State and Territory legislative requirements and critical structural and safety requirements. 4.4. Site is cleaned and cleared of all tools, excess material and debris and left in a safe state.

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

Look for evidence that confirms skills in:

- reading and interpreting routine information on written job instructions, specifications and standard procedures. May include drawings for erecting scaffolding
- undertaking basic levelling and alignment
- interpreting instructions and legislative requirements
- using relevant hand tools and manual handling techniques
- assessing risk
- following oral instructions

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REQUIRED SKILLS AND KNOWLEDGE
• working safely and confidently at heights
Required knowledge
Look for evidence that confirms knowledge of: • erection and dismantling procedures as set out in relevant Australian standards • codes of practice, for example the Scaffolder's Guide, relevant acts and regulations • site specific requirements • safety procedures, safe work practices and procedures • use and application of personal protective equipment • hazards and control measures associated with erecting/dismantling scaffolding and equipment, including housekeeping • scaffolding techniques and equipment • limitations of equipment • materials handling, storage and environmentally friendly waste management

Evidence Guide

EVIDENCE GUIDE	
The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.	
Overview of assessment	A person who demonstrates competency in this unit must be able to erect and dismantle scaffolding/equipment safely subject to legislative requirements. Competency in this unit cannot be claimed until all prerequisites have been satisfied.
Critical aspects for assessment and evidence required to demonstrate competency in this unit	Assessors must be satisfied that the candidate can competently and consistently perform all elements of the unit as specified by the criteria, including required knowledge, and be capable of applying the competency in new and different situations and contexts.
Context of and specific resources for assessment	This unit may be assessed on the job, off the job or a combination of both on and off the job. Where assessment occurs off the job, that is the candidate is not in productive work, then an appropriate simulation must be used where the range of conditions reflects realistic

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EVIDENCE GUIDE	
	workplace situations. The competencies covered by this unit would be demonstrated by an individual working alone or as part of a team. The assessment environment should not disadvantage the candidate. This unit could be assessed in conjunction with any other units addressing the safety, quality, communication, materials handling, recording and reporting associated with erection and dismantling of scaffolding or other units requiring the exercise of the skills and knowledge covered by this unit.
Method of assessment	Assessors should gather a range of evidence that is valid, sufficient, current and authentic. Evidence can be gathered through a variety of ways including direct observation, supervisor's reports, project work, samples and questioning. Questioning should not require language, literacy and numeracy skills beyond those required in this unit. The candidate must have access to all tools, equipment, materials and documentation required and must be permitted to refer to any relevant workplace procedures, codes, specifications, standards, manuals and reference materials.
Guidance information for assessment	

Range Statement

RANGE STATEMENT	
The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.	
Scaffolding/equipment	• Prefabricated tower scaffolds, fall protection devices, catch platforms and bracket scaffolds (tank and formwork), mobile scaffolds, gin wheels, cantilevered hoist with a load limit not exceeding 500 kilograms (material only),

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RANGE STATEMENT	
	safety nets and static lines • The major difference between basic and complex scaffolding is the height of the working platform and certain types of scaffolding and configurations
Hazards	• Chemicals, dangerous or hazardous substances/materials • Movement of equipment, goods, materials, vehicular traffic • Uneven/unstable terrain, overhead service lines, trees, underground services, obstructions, structures, surrounding buildings, facilities, bridges/walkways, lifting equipment
Prescribed procedures	• Clarification of instructions and/or plans either written or from authorised personnel • Site safety policy and procedures • Standard operating procedures • Correct use of equipment • Industry standards and requirements • Manufacturers' specifications
Signage and barriers and third party protection measures	• Physical barriers (parawebbing, bollards, timber or metal barriers) • Warning/direction signs • Personnel to restrict unauthorised access (spotters) • Permits to work
Safe work practices	Hazard identification, risk assessment, risk reduction measures, house keeping and personal protective equipment
State and Territory legislative requirements	• Appropriate OHS and Scaffolding acts and regulations • Australian standards, codes of practice and NOHSC:1006

Unit Sector(s)

Unit sector	

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Co-requisite units

Co-requisite units		

Competency field

Competency field	Materials handling

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MEM11002C Erect/dismantle complex scaffolding and equipment

Modification History

Not Applicable

Unit Descriptor

Unit descriptor	This unit covers erecting, maintaining, inspecting/altering/repairing and dismantling complex scaffolding/equipment.

Application of the Unit

Application of the unit	This unit applies to erecting complex scaffolding to be used generally in maintenance and installation in a workshop, and in factories, manufacturing plants and warehouses. It includes preparation, erection, maintenance, inspection/repair/alteration and dismantling of the scaffolding/equipment. An awareness of licensing and permit requirements is required. **Band**: **A** **Unit Weight**: **4**

Licensing/Regulatory Information

Refer to Application of the Unit

Pre-Requisites

Prerequisite units		
Path 1	MEM11001C	Erect/dismantle scaffolding and equipment

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Prerequisite units		
	MEM18001C	Use hand tools

Employability Skills Information

Employability skills	This unit contains employability skills.

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.

Elements and Performance Criteria

ELEMENT	**PERFORMANCE CRITERIA**
1. Prepare to erect scaffold/equipment	1.1. Site plans, scaffolding/equipment designs and drawings to industry practices are interpreted as necessary. 1.2. Work area is inspected to identify hazards and appropriate prevention/control measures are implemented to avoid hazard. 1.3. All work is undertaken safely and to prescribed procedures.
2. Erect scaffold/equipment	2.1. Erection site is prepared to meet job requirements. 2.2. Necessary signage and barriers and third party protection measures are placed in appropriate position. 2.3. Appropriate scaffolding/equipment components are selected and inspected and damaged components are labelled and rejected.

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ELEMENT	PERFORMANCE CRITERIA
	2.4. Rejected components are repaired or sent for repair. 2.5. Scaffolding/equipment is erected to plan and in accordance with acceptable safe work practices, Australian standards, State or Territory legislative requirements and equipment manufacturers' requirements. 2.6. Scaffolding/equipment is checked for safety and operational requirements and faults are identified in accordance with legislative requirements.
3. Inspect, alter and/or repair scaffold/equipment	3.1. Alterations/repairs are confirmed in accordance with safety work practices, Australian standards and equipment manufacturers' requirements. 3.2. Alterations/repairs are inspected for safety and operational requirements. 3.3. Scope of alteration/repair is confirmed and understood. 3.4. Existing scaffold/equipment is inspected for suitability of alterations/repair requirements. 3.5. Materials, equipment and tools required for alteration are determined. 3.6. Work completion is recorded/reported to appropriate authority.
4. Dismantle scaffold/equipment	4.1. Work is undertaken safely and to prescribed procedure. 4.2. Scaffolding/equipment is inspected for damage, corrosion or wear and is noted for consideration in planning for dismantling. 4.3. Scaffolding/equipment is dismantled in accordance with site procedures, State and Territory legislative requirements and critical structural and safety requirements. 4.4. Site is cleaned and cleared of all tools, excess material and debris and left in a safe state.

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE
This section describes the skills and knowledge required for this unit.

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REQUIRED SKILLS AND KNOWLEDGE
Required skills
Look for evidence that confirms skills in: • levelling and aligning scaffolding • interpreting instructions and legislative requirements • using basic hand tools • assessing risk in relation to complex scaffolding erection • using manual handling techniques • undertaking site clean up and remediation • working safely and confidently at heights
Required knowledge
Look for evidence that confirms knowledge of: • erection and dismantling procedures as set in relevant Australian standards • codes of practice, for example the Scaffolder's Guide, relevant acts and regulations • site specific requirements • safety procedures, safe work practices and procedures • sequence of operations in erecting the scaffolding • types of scaffolding systems • hazards and control measures; electrical, stability, mobile plant issues/requirements; falls protection measures; minimum gap requirements; safe access and egress • deck loadings • use and application of personal protective equipment • scaffolding techniques and equipment • limitations of equipment • materials handling, storage and environmentally friendly waste management

Evidence Guide

EVIDENCE GUIDE	
The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.	
Overview of assessment	A person who demonstrates competency in this unit must be able to erect, maintain and dismantle complex

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EVIDENCE GUIDE	
	scaffolding/equipment safely and subject to legislative requirements. Competency in this unit cannot be claimed until all prerequisites have been satisfied.
Critical aspects for assessment and evidence required to demonstrate competency in this unit	Assessors must be satisfied that the candidate can competently and consistently perform all elements of the unit as specified by the criteria, including required knowledge, and be capable of applying the competency in new and different situations and contexts.
Context of and specific resources for assessment	This unit may be assessed on the job, off the job or a combination of both on and off the job. Where assessment occurs off the job, that is the candidate is not in productive work, then an appropriate simulation must be used where the range of conditions reflects realistic workplace situations. The competencies covered by this unit would be demonstrated by an individual working alone or as part of a team. The assessment environment should not disadvantage the candidate. This unit could be assessed in conjunction with any other units addressing the safety, quality, communication, materials handling, recording and reporting associated with erection, maintenance and dismantling of complex scaffolding or other units requiring the exercise of the skills and knowledge covered by this unit.
Method of assessment	Assessors should gather a range of evidence that is valid, sufficient, current and authentic. Evidence can be gathered through a variety of ways including direct observation, supervisor's reports, project work, samples and questioning. Questioning techniques should not require language, literacy and numeracy skills beyond those required in this unit of competency. The candidate must have access to all tools, equipment, materials and documentation required. The candidate must be permitted to refer to any relevant workplace procedures, product and manufacturing specifications, codes, standards, manuals and reference materials.
Guidance information for assessment	

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Range Statement

RANGE STATEMENT	
The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.	
Scaffolding/equipment	• Prefabricated tower scaffolds, tube and fitting scaffolds as limited by legislative requirements, tube and coupler scaffolds including tube and coupler covered ways and gantries, fall protection devices, catch platforms, bracket scaffolds (tank and formwork), mobile scaffolds, ropes, cantilevered hoists, cantilevered and spurred scaffolds, cantilever crane loading platforms and course-ways, fall protection devices, platforms • Complex scaffolding means Intermediate Scaffolding and above as set out in the legislative requirements in each State and Territory. The major difference between complex and basic scaffolding is the height of the working platform and certain types of scaffolding and configurations • Maintaining scaffolding means ensuring that the scaffolding remains in a safe condition according to manufacturers' specifications and legislative requirements
Hazards	• Chemicals, dangerous or hazardous substances/materials • Movement of equipment, goods, materials, vehicular traffic • Uneven/unstable terrain, overhead service lines, trees, underground services, obstructions, structures, surrounding buildings, facilities, bridges/walkways, lifting equipment
Prescribed procedures may include	• Clarification of instructions either written or from authorised personnel • Site safety policy and procedures • Standard operating procedures • Correct use of equipment

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RANGE STATEMENT	
	• Industry standards and requirements • Manufacturers' specifications
Signage, barriers and third party protection measures may include	• Physical barriers (parawebbing, bollards, timber or metal) • Warning/direction signs • Personnel to restrict unauthorised access (spotters) • Permits to work
Safe work practices may include	Hazard identification, risk assessment, standard operating procedures, house keeping and personal protective equipment.
State or Territory legislative requirements	• Appropriate OH&S and Scaffolding acts and regulations. • Australian standards and codes of practice and • NOHSC:1006

Unit Sector(s)

Unit sector	

Co-requisite units

Co-requisite units		

Competency field

Competency field	Materials handling

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MEM11003B Coordinate erection/dismantling of complex scaffolding/equipment

Modification History

Not Applicable

Unit Descriptor

Unit descriptor	This unit covers coordinating the erection, alteration, repair and dismantling of scaffolding/equipment, and inspecting the completed scaffold/equipment.

Application of the Unit

Application of the unit	This unit applies to individuals coordinating a scaffolding team or employed in a supervisory capacity for the erection, maintenance and dismantling of scaffolding and equipment in a workshop, and in factories, manufacturing plants and warehouses. If specific skills are required for the repair of the scaffolding, personnel with appropriate competencies are accessed. Licensing and permit requirements are addressed accordingly. **Band**: **A** **Unit Weight**: **4**

Licensing/Regulatory Information

Refer to Application of the Unit

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Pre-Requisites

Prerequisite units		
Path 1	MEM11001C	Erect/dismantle scaffolding and equipment
	MEM11002C	Erect/dismantle complex scaffolding and equipment
	MEM18001C	Use hand tools

Employability Skills Information

Employability skills	This unit contains employability skills.

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.

Elements and Performance Criteria

ELEMENT	**PERFORMANCE CRITERIA**
1. Plan and coordinate erection of scaffold/equipment	1.1. Site plans, scaffolding/equipment designs and drawings to industry practices are interpreted as necessary. 1.2. Work area is inspected to identify hazards and appropriate prevention/control measures are implemented to avoid hazard. 1.3. All work is undertaken safely and to prescribed procedures. 1.4. Erection site is prepared to meet job and safety

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ELEMENT	PERFORMANCE CRITERIA
	requirements. 1.5. Necessary signage and barriers are placed in appropriate position. 1.6. Scaffolding/equipment erection is coordinated in accordance with acceptable safe work practices, Australian standards, State or Territory legislative requirements and equipment manufacturers' requirements. 1.7. Completed scaffolding/equipment is inspected for safety and compliance with design, operational and statutory requirements.
2. Coordinate alterations and repairs of scaffold/equipment	2.1. Scope of alteration/repair is confirmed and understood. 2.2. Existing scaffolding/equipment is inspected and alterations/repairs determined. 2.3. Materials, equipment and tools required for alterations are determined. 2.4. Existing or new load requirements are determined using load tables. 2.5. Alteration/repairs are coordinated in accordance with safety work practices, Australian standards and equipment manufacturers' requirements. 2.6. Alterations/repairs are inspected for safety and operational requirements. 2.7. Work completion is reported to appropriate personnel and recorded.
3. Inspect completed scaffold/equipment	3.1. The critical structural and safety areas of the scaffolding/equipment are inspected for damage, corrosion and wear. 3.2. Scaffolding/equipment and structure is checked against the type of scaffolding/equipment and structure specified in the plan. 3.3. Inspection log is completed. 3.4. Potential safety and design/structural hazards are reported for rectification.
4. Coordinate dismantling of scaffold/equipment	4.1. Work is coordinated safely and to standard operating procedure. 4.2. Scaffolding/equipment is removed from site in accordance with standard operating procedures and critical structural and safety requirements. 4.3. Site clearance is coordinated, and surplus material, equipment, tools and debris are removed and site left

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ELEMENT	PERFORMANCE CRITERIA
	in safe and operational state. 4.4. Work completion is reported to appropriate authority.

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE
This section describes the skills and knowledge required for this unit.
Required skills
Look for evidence that confirms skills in: • levelling and alignment of scaffolding • interpreting instructions and legislative requirements • using basic hand tools • assessing risk • using manual handling techniques • cleaning up and site remediation • time management • determining personnel and equipment requirements • inspecting completed scaffolding with reference to structural integrity and design faults • locating, reading and interpreting information on written job instructions, specifications, drawings, charts, lists and other reference documentation • planning, sequencing operations • checking and clarifying strategies • working safely and confidently at heights
Required knowledge
Look for evidence that confirms knowledge of: • erection and dismantling procedures as set in the Australian standards • codes of practice, for example the Scaffolder's Guide • site specific requirements • safety procedures • types of scaffolding systems • deck loadings • hazards; electrical, stability, mobile plant issues/requirements; falls protection measures; minimum gap requirements; safe access and egress

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REQUIRED SKILLS AND KNOWLEDGE
• sequence of operations in erecting and dismantling the scaffolding • design and materials faults such as rust, wear and tear, stress • use and application of personal protective equipment • safe work practices and procedures • scaffolding techniques and equipment • limitations of equipment • materials handling, storage and environmentally friendly waste management

Evidence Guide

EVIDENCE GUIDE	
The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.	
Overview of assessment	A person who demonstrates competency in this unit must be able to coordinate the erection, repair, maintenance and dismantling of all scaffolding applications. Competency in this unit cannot be claimed until all prerequisites have been satisfied.
Critical aspects for assessment and evidence required to demonstrate competency in this unit	Assessors must be satisfied that the candidate can competently and consistently perform all elements of the unit as specified by the criteria, including required knowledge, and be capable of applying the competency in new and different situations and contexts.
Context of and specific resources for assessment	This unit may be assessed on the job, off the job or a combination of both on and off the job. Where assessment occurs off the job, that is the candidate is not in productive work, then an appropriate simulation must be used where the range of conditions reflects realistic workplace situations. The competencies covered by this unit would be demonstrated by an individual working alone or as part of a team. The assessment environment should not disadvantage the candidate. This unit could be assessed in conjunction with any other units addressing the safety, quality, communication, materials handling, recording and reporting associated with coordination of the erection, repair, maintenance

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EVIDENCE GUIDE	
	and dismantling of all scaffolding applications or other units requiring the exercise of the skills and knowledge covered by this unit.
Method of assessment	Assessors should gather a range of evidence that is valid, sufficient, current and authentic. Evidence can be gathered through a variety of ways including direct observation, supervisor's reports, project work, samples and questioning. Questioning techniques should not require language, literacy and numeracy skills beyond those required in this unit of competency. The candidate must have access to all tools, equipment, materials and documentation required. The candidate must be permitted to refer to any relevant workplace procedures, product and manufacturing specifi-cations, codes, standards, manuals and reference materials.
Guidance information for assessment	

Range Statement

RANGE STATEMENT	
The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.	
Scaffolding/equipment	• Tube and fitting scaffolds as limited by legislative requirements • Fall protection devices • Catch platforms • Standing prefabricated tower scaffolds and bracket scaffolds • Mobile scaffolds • Cantilevered hoists • Cantilevered and spurred scaffolds • Platforms and course-ways • Suspended scaffolds

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RANGE STATEMENT	
	• Cantilevered cranes • Loading platforms • Hung scaffolds Complex scaffolding means Intermediate Scaffolding and above as set out the legislative requirements in each State and Territory. The major difference between the complex and basic scaffolding is the height of the working platform and certain types of scaffolding and configurations
Hazards	• Chemicals, dangerous or hazardous substances/materials • Movement of equipment, goods, materials, vehicular traffic • Uneven/unstable terrain, overhead service lines, trees, underground services, obstructions, structures, surrounding buildings, facilities, bridges/walkways, lifting equipment
Prescribed procedures	• Clarification of instructions either written or from authorised personnel • Site safety policy and procedures • Standard operating procedures • Correct use of equipment • Industry standards and requirements • Manufacturers' specifications
Signage and barriers	• Physical barriers (parawebbing, bollards, timber or metal barriers) • Warning/direction signs • Personnel to restrict unauthorised access (spotters) • Permit signage
Safe work practices	Hazard identification, control measures, risk assessment, standard operating procedures, house keeping and personal protective equipment
State or Territory legislative requirements	• Appropriate OH&S and Scaffolding acts and regulations • Australian standards and codes of practice and • NOHSC:1006

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Unit Sector(s)

Unit sector	

Co-requisite units

Co-requisite units		

Competency field

Competency field	Materials handling

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MEM11004B Undertake dogging

Modification History

Not Applicable

Unit Descriptor

Unit descriptor	This unit covers attaching slings to loads and moving loads using appropriate communication and signalling methods.

Application of the Unit

Application of the unit	This unit applies to the skills used when working with loads, selecting equipment and communicating with a crane driver in a workshop or on site. The scope of work is to demonstrate competence in the application of slinging techniques, selection and inspection of lifting gear, and direction of the crane/hoist operator in the movement of the load including when the load is out of view of the operator. This unit is not intended to apply to machine loading and simple straight lifts where knowledge of codes and signals is not required. **Band**: **A** **Unit Weight**: **4**

Licensing/Regulatory Information

Not Applicable

Pre-Requisites

Prerequisite units	

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Prerequisite units		
Path 1	MEM18001C	Use hand tools

Employability Skills Information

Employability skills	This unit contains employability skills.

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.

Elements and Performance Criteria

ELEMENT	**PERFORMANCE CRITERIA**
1. Attach lifting gear to loads	1.1. Potential hazards associated with the use of cranes and other load shifting equipment are identified and measures to eliminate or control these hazards are planned. 1.2. Site information is obtained as necessary. 1.3. All work is undertaken safely and to prescribed procedures. 1.4. Load is inspected and best lifting method determined. 1.5. Load shifting equipment is selected appropriate to load. 1.6. Lifting gear is inspected and damaged or worn items are labelled and rejected. 1.7. Where appropriate, safe working loads are calculated

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ELEMENT	PERFORMANCE CRITERIA
	to Australian standards. 1.8. Lifting gear is attached to load in most appropriate and safe manner and to specifications where required.
2. Move loads	2.1. Load moving is performed to acceptable safe working practices, Australian standards, codes of practice and specifications. 2.2. Lifting gear is connected to load shifting equipment using safe and appropriate techniques. 2.3. Communication and signalling methods are used as appropriate to coordinate the load movement in a safe manner. 2.4. Load is grounded or put down in accordance with prescribed procedure, in a safe and stable manner. 2.5. All lifting gear is detached from load mover and load.

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

Look for evidence that confirms skills in:

- selecting lifting methods and load shifting equipment appropriate to the task
- attaching loads
- calculating safe working loads
- communicating with related personnel about the lift
- using of basic hand tools relating to lifts
- identifying hazards and assessing risk
- identifying damaged/worn lifting gear
- self management
- team work
- problem solving

Required knowledge

Look for evidence that confirms knowledge of:

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REQUIRED SKILLS AND KNOWLEDGE
• Australian standards, codes of practice and specifications • lifting methods and lifting gear to suit various loads • dogging signals and communication methods • calculations relevant to lifting procedures • lifting methods • types and applications of load shifting equipment • hazards and control measures associated with dogging • use and application of personal protective equipment • safe work practices and procedures • licensing requirements • permit requirements • site/non-site personnel • manufacturers' specifications • enterprise procedures • workplace communication procedures

Evidence Guide

EVIDENCE GUIDE	
The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.	
Overview of assessment	A person who demonstrates competency in this unit must be able to calculate, sling, and arrange safe movement of a load. Competency in this unit cannot be claimed until all prerequisites have been satisfied.
Critical aspects for assessment and evidence required to demonstrate competency in this unit	Assessors must be satisfied that the candidate can competently and consistently perform all elements of the unit as specified by the criteria, including required knowledge, and be capable of applying the competency in new and different situations and contexts.
Context of and specific resources for assessment	This unit may be assessed on the job, off the job or a combination of both on and off the job. Where assessment occurs off the job, that is the candidate is not in productive work, then an appropriate simulation must be used where the range of conditions reflects realistic

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EVIDENCE GUIDE	
	workplace situations. The competencies covered by this unit would be demonstrated by an individual working alone or as part of a team. The assessment environment should not disadvantage the candidate. This unit could be assessed in conjunction with any other units addressing the safety, quality, communication, materials handling, recording and reporting associated with the calculation and safe movement of loads or other units requiring the exercise of the skills and knowledge covered by this unit.
Method of assessment	Assessors should gather a range of evidence that is valid, sufficient, current and authentic. Evidence can be gathered through a variety of ways including direct observation, supervisor's reports, project work, samples and questioning. Questioning should not require language, literacy and numeracy skills beyond those required in this unit. The candidate must have access to all tools, equipment, materials and documentation required. The candidate must be permitted to refer to any relevant workplace procedures, product and manufacturing specifications, codes, standards, manuals and reference materials.
Guidance information for assessment	

Range Statement

RANGE STATEMENT	
The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.	
Hazards	May include overhead power lines, trees, overhead service lines (such as steam, gas, water, telephone), underground services, uneven and/or unstable ground, allowable floor loading as

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RANGE STATEMENT	
	appropriate, other workers and persons, surrounding buildings/vessels/structures equipment, hazardous materials, corrosive substances, barricades, inadequate lighting and radio interference
Load shifting equipment	May include overhead cranes, overhead gantry, forklift with approved lifting boom/jib, mobile cranes
Lifting method	Slings in an appropriate configuration
Lifting gear	Tags, slings, ropes, shackles, lifting clutches, snatch blocks, I bolts, spreader beams, chain blocks, chain shorteners and may include equalising sheaves, collared I bolts, turn buckles, rigging screws and lifting lugs
Calculations	Load and gear calculations
Safe working practices	• Inspection of the environment • Assessment of hazards • Personnel safety
Communication and signalling methods	• Signals are given both within sight and out of sight of equipment operators. • Signals include stop, raise, lower, slew, luff, extend and retract boom, using hands, verbal instructions and whistles
State or Territory legislative requirements	• Appropriate OH&S and acts and regulations • Australian standards and codes of practice and • NOHSC:1006 • AS1418

Unit Sector(s)

Unit sector	

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Co-requisite units

Co-requisite units		

Competency field

Competency field	Materials handling

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MEM11005B Pick and process order

Modification History

Not Applicable

Unit Descriptor

Unit descriptor	This unit covers receiving an order, picking an order, checking against documentation, placing in the correct area and completing enterprise documentation.

Application of the Unit

Application of the unit	This unit applies where the employee needs to exercise knowledge of the enterprise product range and the procedures, practices and standards for the storage and handling of a product. If materials handling equipment skills are needed, Unit MEM11010B (Operate mobile load shifting equipment) should be accessed. Simple handling of goods not requiring the ability to identify different products or to interact with inventory records and stock location systems is covered by Unit MEM11010B (Operate mobile load shifting equipment) or Unit MEM11011B (Undertake manual handling). **Band**: **A** **Unit Weight**: **4**

Licensing/Regulatory Information

Not Applicable

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Pre-Requisites

Prerequisite units		

Employability Skills Information

Employability skills	This unit contains employability skills.

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.

Elements and Performance Criteria

ELEMENT	**PERFORMANCE CRITERIA**
1. Receive order	1.1. Orders are received and checked for errors. 1.2. Product to be picked is identified.
2. Pick order	2.1. Materials handling equipment appropriate to products is selected and used, if required. 2.2. Products to be picked are located using standard operating procedures. 2.3. Order is picked accurately, either by manual handling or using materials handling equipment. 2.4. Product is handled according to storage and handling requirements identified in standard operating procedures/regulations.

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ELEMENT	PERFORMANCE CRITERIA
3. Finalise order picking	3.1. Picked order is checked against documentation. 3.2. Picked order is placed in correct area for consolidation. 3.3. Enterprise documentation is completed.

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE
This section describes the skills and knowledge required for this unit.
Required skills
Look for evidence that confirms skills in: • reading and interpreting routine information on written orders and standard operating procedures. May include simple drawings • using materials handling equipment in a warehouse • identifying dangerous goods • following oral instruction • entering routine and familiar information onto proformas and standard workplace forms
Required knowledge
Look for evidence that confirms knowledge of: • safe manual handling procedures • reasons for selecting materials handling equipment • safe storage and handling procedures for a range of products including dangerous goods • applicable Material Safety Data Sheets • applicable industry standards, national/Australian standards, NOHSC guidelines, State/Territory regulatory codes of practice/standards • use and application of personal protective equipment • safe work practices and procedures • hazards and control measures associated with picking and processing orders

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Evidence Guide

EVIDENCE GUIDE	
The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.	
Overview of assessment	A person who demonstrates competency in this unit must be able to pick and process orders and store products according to enterprise procedures.
Critical aspects for assessment and evidence required to demonstrate competency in this unit	Assessors must be satisfied that the candidate can competently and consistently perform all elements of the unit as specified by the criteria, including required knowledge, and be capable of applying the competency in new and different situations and contexts.
Context of and specific resources for assessment	This unit may be assessed on the job, off the job or a combination of both on and off the job. Where assessment occurs off the job, that is the candidate is not in productive work, then an appropriate simulation must be used where the range of conditions reflects realistic workplace situations. The competencies covered by this unit would be demonstrated by an individual working alone or as part of a team. The assessment environment should not disadvantage the candidate. This unit could be assessed in conjunction with any other units addressing the safety, quality, communication, materials handling, recording and reporting associated with picking and processing orders or other units requiring the exercise of the skills and knowledge covered by this unit.
Method of assessment	Assessors should gather a range of evidence that is valid, sufficient, current and authentic. Evidence can be gathered through a variety of ways including direct observation, supervisor's reports, project work, samples and questioning. Questioning techniques should not require language, literacy and numeracy skills beyond those required in this unit of competency. The candidate must have access to all tools, equipment, materials and documentation required. The candidate must be permitted to refer to any relevant workplace procedures, product and manufacturing specifications, codes, standards, manuals and reference materials.
Guidance information for	

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EVIDENCE GUIDE	
assessment	

Range Statement

RANGE STATEMENT	
The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.	
Materials handling equipment	Forklift, order picker, WAVE truck, pallet trucks, wheelbarrow, trolleys, sack truck
Storage and handling requirements	As per legislative requirements e.g. dangerous goods and storage of poisons acts and regulations
Enterprise documentation	Invoices, orders, returns, recording cards, inventory documentation, maintenance inventories, etc. and may include documents (hardcopy or electronic) required by legislation

Unit Sector(s)

Unit sector	

Co-requisite units

Co-requisite units		

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Competency field

Competency field	Materials handling

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MEM11006B Perform production packaging

Modification History

Not Applicable

Unit Descriptor

Unit descriptor	This unit covers packaging and labelling of finished goods for storage or transport.

Application of the Unit

Application of the unit	This unit typically applies in a production/process environment. It would normally involve packing of finished goods, including assemblies, sub-assemblies, individual or multiple components. This unit is not intended to apply in situations where simple interim packing, storage and/or stacking are undertaken in context of a production function. **Band**: **A** **Unit Weight**: **2**

Licensing/Regulatory Information

Not Applicable

Pre-Requisites

Prerequisite units		

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Employability Skills Information

Employability skills	This unit contains employability skills.

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Undertake packaging	1.1. Packaging requirements are identified from instructions or determined by safety, storage conditions, site and legislative requirements. 1.2. Packaging is undertaken to standard operating procedures.
2. Label packaged items	2.1. Identification labels, tags and stickers are checked for correctness and appropriately placed/attached. 2.2. Packaged items are stored in a safe, orderly and retrievable manner and the location in the warehouse/store is recorded.

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE This section describes the skills and knowledge required for this unit.
Required skills

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REQUIRED SKILLS AND KNOWLEDGE
Look for evidence that confirms skills in: • reading and interpreting routine information on written job instructions and standard operating procedures. May include simple drawings • determining packaging requirements from safety, storage conditions, site and legislative requirements • labelling packaged items • handling and storing products • using scanning devices, if required • following oral instruction • entering routine and familiar information on to proforma and standard workplace forms • orally reporting routine information
Required knowledge
Look for evidence that confirms knowledge of: • labelling procedures and standards • storage and recording procedures • use and application of personal protective equipment • safe work practices and procedures • hazards and control measures associated with production packaging

Evidence Guide

EVIDENCE GUIDE	
The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.	
Overview of assessment	A person who demonstrates competency in this unit must be able to undertake production packaging and labelling of items.
Critical aspects for assessment and evidence required to demonstrate competency in this unit	Assessors must be satisfied that the candidate can competently and consistently perform all elements of the unit as specified by the criteria, including required knowledge, and be capable of applying the competency in new and different situations and contexts.

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EVIDENCE GUIDE	
Context of and specific resources for assessment	This unit may be assessed on the job, off the job or a combination of both on and off the job. Where assessment occurs off the job, that is the candidate is not in productive work, then an appropriate simulation must be used where the range of conditions reflects realistic workplace situations. The competencies covered by this unit would be demonstrated by an individual working alone or as part of a team. The assessment environment should not disadvantage the candidate. This unit could be assessed in conjunction with any other units addressing the safety, quality, communication, materials handling, recording and reporting associated with production packaging or other units requiring the exercise of the skills and knowledge covered by this unit.
Method of assessment	Assessors should gather a range of evidence that is valid, sufficient, current and authentic. Evidence can be gathered through a variety of ways including direct observation, supervisor's reports, project work, samples and questioning. Questioning techniques should not require language, literacy and numeracy skills beyond those required in this unit of competency. The candidate must have access to all tools, equipment, materials and documentation required. The candidate must be permitted to refer to any relevant workplace procedures, product and manufacturing specifications, codes, standards, manuals and reference materials.
Guidance information for assessment	

Range Statement

RANGE STATEMENT
The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.

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RANGE STATEMENT	
Packaging requirements	• Packaging methods include manual processes, semi automatic and fully automated packaging equipment • Procedures undertaken include standards, codes, legislative, company and customer requirements • Packaging material is generally determined from instructions, written or verbal
Storage conditions, site and legislative requirements	As per legislative requirements e.g. dangerous goods and storage of poisons acts and regulations

Unit Sector(s)

Unit sector	

Co-requisite units

Co-requisite units		

Competency field

Competency field	Materials handling

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MEM11007B Administer inventory procedures

Modification History

Not Applicable

Unit Descriptor

Unit descriptor	This unit covers using inventory procedures and requisitioning goods.

Application of the Unit

Application of the unit	The unit applies to the administration of inventory procedures using manual or electric systems to support or maintain stores or inventory systems, for example Just-in-Time or KANBAN systems. Where routine activity within standard operating procedure is undertaken, refer to Unit MEM16006A (Organise and communicate information) or Unit MEM16008A (Interact with computing technology). **Band**: **A** **Unit Weight**: **4**

Licensing/Regulatory Information

Not Applicable

Pre-Requisites

Prerequisite units		

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Employability Skills Information

Employability skills	This unit contains employability skills.

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Use inventory procedures	1.1. Inventory procedures are applied to standard operational procedures. 1.2. Requisition, purchase, shipping and invoice documentation is used as required to standard operational procedures. 1.3. Inward/outward recording/filing system is accessed and maintained to standard operational procedures. 1.4. Customer orders are maintained to standard operational procedures. 1.5. Returned orders are booked back using standard operational procedures.
2. Requisition goods	2.1. Requisition procedures are applied to standard operational procedures. 2.2. Goods are requisitioned on time. 2.3. All recording is completed and filed correctly in accordance with site procedures.

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Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE
This section describes the skills and knowledge required for this unit.
Required skills
Look for evidence that confirms skills in: • reading, interpreting and following information on requisition, purchase, shipping and invoice documentation, standard operating procedures, charts, lists and other applicable reference documents • accessing and maintaining manual and electronic inventory information • undertaking numerical operations and calculations within the scope of this unit • organising information • recording and filing information • managing time • checking for conformance to specifications • measuring to specified tolerances • entering information on to manual and electronic proformas and standard workplace documents
Required knowledge
Look for evidence that confirms knowledge of: • features and application of inventory systems such as Just-in-Time, KANBAN • inventory procedures • safe work practices and procedures • use and application of personal protective equipment • hazards and control measures associated with administering inventory procedures • measurement techniques, tools and equipment for administering inventory procedures

Evidence Guide

EVIDENCE GUIDE	
The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.	
Overview of assessment	A person who demonstrates competency in this unit must

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EVIDENCE GUIDE	
	be able to administer inventory procedures.
Critical aspects for assessment and evidence required to demonstrate competency in this unit	Assessors must be satisfied that the candidate can competently and consistently perform all elements of the unit as specified by the criteria, including required knowledge, and be capable of applying the competency in new and different situations and contexts.
Context of and specific resources for assessment	This unit may be assessed on the job, off the job or a combination of both on and off the job. Where assessment occurs off the job, that is the candidate is not in productive work, then an appropriate simulation must be used where the range of conditions reflects realistic workplace situations. The competencies covered by this unit would be demonstrated by an individual working alone or as part of a team. The assessment environment should not disadvantage the candidate. This unit could be assessed in conjunction with any other units addressing the safety, quality, communication, materials handling, recording and reporting associated with inventory procedures or other units requiring the exercise of the skills and knowledge covered by this unit.
Method of assessment	Assessors should gather a range of evidence that is valid, sufficient, current and authentic. Evidence can be gathered through a variety of ways including direct observation, supervisor's reports, project work, samples and questioning. Questioning techniques should not require language, literacy and numeracy skills beyond those required in this unit of competency. The candidate must have access to all tools, equipment, materials and documentation required. The candidate must be permitted to refer to any relevant workplace procedures, product and manufacturing specifications, codes, standards, manuals and reference materials.
Guidance information for assessment	

Range Statement

RANGE STATEMENT

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RANGE STATEMENT	
The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.	
Inventory procedures	Inventory systems such as Just-in-Time or KANBAN systems

Unit Sector(s)

Unit sector	

Co-requisite units

Co-requisite units		

Competency field

Competency field	Materials handling

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MEM11010B Operate mobile load shifting equipment

Modification History

Not Applicable

Unit Descriptor

Unit descriptor	This unit covers operating mobile load shifting equipment, including moving and placing loads.

Application of the Unit

Application of the unit	This unit applies to the general operation of mobile load shifting equipment, including planning the work, moving and placing loads, and shutting down and securing equipment after operation where knowledge of codes and signals is not required. The unit applies to moving loads in workshops and/or on site. This may include but is not limited to factories, wharfs, ships, warehouses, manufacturing plants, building sites, road construction, demolition sites, quarries and mine sites. If hand tools are required, Unit MEM08001B (Use hand tools) should also be selected. Awareness of licensing requirements - licenses may be required for mobile load shifting equipment in some jurisdictions. **Band**: **A** **Unit Weight**: **4**

Licensing/Regulatory Information

Refer to Application of the Unit

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Pre-Requisites

Prerequisite units		

Employability Skills Information

Employability skills	This unit contains employability skills.

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.

Elements and Performance Criteria

ELEMENT	**PERFORMANCE CRITERIA**
1. Prepare to shift loads	1.1. Work area is inspected to identify hazards, and appropriate prevention/control measures are implemented to avoid hazards. 1.2. Routine pre-operational checks are undertaken in accordance with manufacturers' specifications and regulatory safety requirements. 1.3. Attachments and/or equipment are inspected.
2. Check controls and equipment	2.1. Pre-operational and post start-up equipment checks are carried out in accordance with manufacturers' specifications and/or operating manual. 2.2. Defects and damage are reported according to site procedures.

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ELEMENT	PERFORMANCE CRITERIA
3. Shift loads	3.1. The most appropriate load shifting device is selected to suit load and shifting requirements. 3.2. Load shifting device is operated within design specifications and safe working load in accordance with standard operating procedures. 3.3. Load is lifted, ensuring balance, vision of operation and protection of load. 3.4. The safe and efficient path of movement is selected and used. 3.5. Path of movement is checked and monitored for obstacles and hazards and safely are maintained.
4. Place loads	4.1. Loads are placed ensuring safety, stability, protection of material and avoidance of hazards on site.
5. Shut down equipment and secure site	5.1. Machinery is parked avoiding equipment hazards. 5.2. Shut-down is conducted in accordance with manufacturers' specification to isolate vehicles. 5.3. Post-operational check is completed in accordance with operational procedures. 5.4. Machinery is parked in accordance with standard operating procedures, avoiding site hazards.

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE
This section describes the skills and knowledge required for this unit.
Required skills
Look for evidence that confirms skills in: • interpreting and following routine information on standard operating procedures. May include simple drawings, tables and figures, written documents • performing routine safety, basic service and maintenance procedures • calculating load masses and safe working loads • selecting appropriate load shifting device • following oral instructions • safely operating load shifting devices and shifting loads • working with others • interpreting communication signals and instructions

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REQUIRED SKILLS AND KNOWLEDGE
• determining load masses and equipment requirements • determining mass of irregular shaped loads • demonstrating emergency operating procedures • communicating faults, malfunctions and workplace hazards, reports and maintenance of operational records
Required knowledge
Look for evidence that confirms knowledge of: • pre-operational checks • design specifications of load shifting device • load chart • licensing requirements • load protection • safe load placement • operational environment • appropriate permits • hazards and control measures associated with load shifting and equipment • use and application of personal protective equipment • safe work practices and procedures • workplace communication procedures • manufacturers' specifications

Evidence Guide

EVIDENCE GUIDE	
The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.	
Overview of assessment	A person who demonstrates competency in this unit must be able to operate load sifting equipment to move and place loads.
Critical aspects for assessment and evidence required to demonstrate competency in this unit	Assessors must be satisfied that the candidate can competently and consistently perform all elements of the unit as specified by the criteria, including required knowledge, and be capable of applying the competency in new and different situations and contexts.

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EVIDENCE GUIDE	
Context of and specific resources for assessment	This unit may be assessed on the job, off the job or a combination of both on and off the job. Where assessment occurs off the job, that is the candidate is not in productive work, then an appropriate simulation must be used where the range of conditions reflects realistic workplace situations. The competencies covered by this unit would be demonstrated by an individual working alone or as part of a team. The assessment environment should not disadvantage the candidate. This unit could be assessed in conjunction with any other units addressing the safety, quality, communication, materials handling, recording and reporting associated with using load sifting equipment to move and place loads or other units requiring the exercise of the skills and knowledge covered by this unit.
Method of assessment	Assessors should gather a range of evidence that is valid, sufficient, current and authentic. Evidence can be gathered through a variety of ways including direct observation, supervisor's reports, project work, samples and questioning. Questioning techniques should not require language, literacy and numeracy skills beyond those required in this unit of competency. The candidate must have access to all tools, equipment, materials and documentation required. The candidate must be permitted to refer to any relevant workplace procedures, product and manufacturing specifications, codes, standards, manuals and reference materials.
Guidance information for assessment	

Range Statement

RANGE STATEMENT
The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and

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RANGE STATEMENT	
regional contexts) may also be included.	
Pre-operational checks	Battery, water, fuel, hazards warning lights, fluid or gas leaks, braking, movement of booms, visual checks of tyres, emergency devise/alarms, log books, operating motions, evidence of damage, excessive wear and tear, as determined by manufacturers' specifications and standard operating procedures
Attachments and/or equipment	Hooks, electromagnetic hook, buckets, slings, tag lines, buckets, trench, excavating, rock breakers, shackles, lifting lugs, fork arms
Post start-up	• Hazards warning systems, attachments, movements and control functions are smooth • Operating and emergency controls and safety devices are located, identified and tested • Communication signals are confirmed • Defects and damage are reported
Load shifting device	Front end loaders/back hoes, ride on forklifts and pallet trucks, bobcats, vehicle loading crane
Safe working load	Weight of load is assessed to ensure compliance with equipment load plate specifications
Standard operating procedures	Industry standards, production schedules, material safety data sheets, work notes and plans, product labels, manufacturers' specifications, operator manuals, enterprise policies and procedures, supervisors' oral and written instructions, current State/Territory occupational health and safety legislation, standards and codes of practice
Obstacles and hazards	• Overhead cables, personnel, obstacles (fixed and moveable), trenches, pits, uneven terrain, trees, underground services • Exposure to chemicals, dangerous or hazardous substances • Movements of equipment, goods, materials and vehicular traffic
Shut-down	• Post-operational equipment checks, motion locks and brakes are applied • Lifting equipment is checked • Defective equipment is identified, segregated

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RANGE STATEMENT	
	and reported to supervisor • Equipment is correctly stowed

Unit Sector(s)

Unit sector	

Co-requisite units

Co-requisite units		

Competency field

Competency field	Materials handling

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MEM11011B Undertake manual handling

Modification History

Not Applicable

Unit Descriptor

Unit descriptor	This unit covers lifting and moving materials manually.

Application of the Unit

Application of the unit	This unit applies to lifting and moving materials manually and/or using basic manual handling equipment in a wide range of environments. Maximum manual lifting weight is limited to National Occupational Health and Safety Commission (NOHSC) recommendations. **Band**: **A** **Unit Weight**: **2**

Licensing/Regulatory Information

Not Applicable

Pre-Requisites

Prerequisite units		

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Employability Skills Information

Employability skills	This unit contains employability skills.

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Lift materials manually	1.1. Material weight is determined correctly utilising most appropriate technique, and risks associated with lifting are assessed. 1.2. Lifting techniques are undertaken to National Occupational Health and Safety Commission (NOHSC) and standard operating procedures. Types of movement, methods, storage, height and position are considered.
2. Move/shift materials manually	2.1. Appropriate equipment is selected where required. 2.2. Material is placed safely and securely on moving equipment. 2.3. Material is relocated ensuring safety of personnel and security of material. 2.4. Material is unloaded from moving equipment and placed in a safe and secure manner.

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

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REQUIRED SKILLS AND KNOWLEDGE
This section describes the skills and knowledge required for this unit.
Required skills
Look for evidence that confirms skills in: • identifying relevant standards and lifting techniques • assessing weight of material • selecting lifting equipment • working and communicating in teams • assessing risks • planning • reading and interpreting routine information on written job instructions, specifications and standard operating procedures. May include drawings • following oral instructions
Required knowledge
Look for evidence that confirms knowledge of: • manual handling techniques • hazards of incorrect procedures • NOHSC standards for manual handling • safe work practices and procedures

Evidence Guide

EVIDENCE GUIDE	
The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.	
Overview of assessment	A person who demonstrates competency in this unit must be able to move loads manually using appropriate aids.
Critical aspects for assessment and evidence required to demonstrate competency in this unit	Assessors must be satisfied that the candidate can competently and consistently perform all elements of the unit as specified by the criteria, including required knowledge, and be capable of applying the competency in new and different situations and contexts.

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EVIDENCE GUIDE	
Context of and specific resources for assessment	This unit may be assessed on the job, off the job or a combination of both on and off the job. Where assessment occurs off the job, that is the candidate is not in productive work, then an appropriate simulation must be used where the range of conditions reflects realistic workplace situations. The competencies covered by this unit would be demonstrated by an individual working alone or as part of a team. The assessment environment should not disadvantage the candidate. This unit could be assessed in conjunction with any other units addressing the safety, quality, communication, materials handling, recording and reporting associated with moving loads manually or other units requiring the exercise of the skills and knowledge covered by this unit.
Method of assessment	Assessors should gather a range of evidence that is valid, sufficient, current and authentic. Evidence can be gathered through a variety of ways including direct observation, supervisor's reports, project work, samples and questioning. Questioning techniques should not require language, literacy and numeracy skills beyond those required in this unit of competency. The candidate must have access to all tools, equipment, materials and documentation required. The candidate must be permitted to refer to any relevant workplace procedures, product and manufacturing specifications, codes, standards, manuals and reference materials.
Guidance information for assessment	

Range Statement

RANGE STATEMENT
The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.

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RANGE STATEMENT	
Material weight	Material weight is determined using scales or interpreting signage
Lifting techniques	Individual or team lifting, use of appropriate lifting equipment
Appropriate equipment	Hand trolleys, wheelbarrows, motorised/hand pallet trucks (not sit on), scissor lifts, boom lifts, hand carts, dedicated production or process lifting equipment such as baskets, spreader bars, cradles or the like attached to lifting equipment

Unit Sector(s)

Unit sector	

Co-requisite units

Co-requisite units		

Competency field

Competency field	Materials handling

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MEM11012B Purchase materials

Modification History

Not Applicable

Unit Descriptor

Unit descriptor	This unit covers determining purchasing requirements, preparing purchase order/list and purchasing materials.

Application of the Unit

Application of the unit	This unit applies to purchasing one-off or multiple quantities of raw materials, components, equipment etc. Contracts and paperwork may be generated manually or electronically using the on-site system. **Band**: **A** **Unit Weight**: **6**

Licensing/Regulatory Information

Not Applicable

Pre-Requisites

Prerequisite units		

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Employability Skills Information

Employability skills	This unit contains employability skills.

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Determine purchasing requirements	1.1. Client, customer, user is consulted as necessary to determine purchasing requirements. 1.2. Material specifications are determined from orders, instructions and/or technical drawings. 1.3. Quantities, price limitations and delivery requirements are determined from orders, instructions.
2. Prepare purchase order/list	2.1. Purchase order/list is developed to standard operational procedure.
3. Purchase material	3.1. Standard operating procedures are followed. 3.2. Supplier/vendor is informed of requirements and specifications. 3.3. Purchasing schedules are adjusted where required to standard operating procedures. 3.4. Appropriate paperwork/contracts are exchanged to standard operating procedures. 3.5. Records/files are maintained accurately using standard operating procedures.

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Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE This section describes the skills and knowledge required for this unit.
Required skills
Look for evidence that confirms skills in: • reading, interpreting and following information on orders, instructions and/or technical drawings, standard operating procedures, purchasing schedules, orders, records, files and other applicable reference documents • planning and sequencing tasks • checking and clarifying information • entering and maintaining information on manual and electronic workplace documents • checking for conformance to specifications • communicating with client, customer, user, supplier/vendor • identifying purchasing specifications • calculating quantity, price and delivery requirements • selecting suppliers • maintaining purchase documentation
Required knowledge
Look for evidence that confirms knowledge of: • suppliers and available products • purchasing procedures • contract initiation and exchange procedures • safe work practices and procedures • hazards and control measures associated with purchasing materials

Evidence Guide

EVIDENCE GUIDE	
The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.	
Overview of assessment	A person who demonstrates competency in this unit must be able to prepare a purchase order and purchase

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EVIDENCE GUIDE	
	materials.
Critical aspects for assessment and evidence required to demonstrate competency in this unit	Assessors must be satisfied that the candidate can competently and consistently perform all elements of the unit as specified by the criteria, including required knowledge, and be capable of applying the competency in new and different situations and contexts.
Context of and specific resources for assessment	This unit may be assessed on the job, off the job or a combination of both on and off the job. Where assessment occurs off the job, that is the candidate is not in productive work, then an appropriate simulation must be used where the range of conditions reflects realistic workplace situations. The competencies covered by this unit would be demonstrated by an individual working alone or as part of a team. The assessment environment should not disadvantage the candidate. This unit could be assessed in conjunction with any other units addressing the safety, quality, communication, materials handling, recording and reporting associated with preparing a purchase order and purchasing materials or other units requiring the exercise of the skills and knowledge covered by this unit.
Method of assessment	Assessors should gather a range of evidence that is valid, sufficient, current and authentic. Evidence can be gathered through a variety of ways including direct observation, supervisor's reports, project work, samples and questioning. Questioning techniques should not require language, literacy and numeracy skills beyond those required in this unit of competency. The candidate must have access to all tools, equipment, materials and documentation required. The candidate must be permitted to refer to any relevant workplace procedures, product and manufacturing specifications, codes, standards, manuals and reference materials.
Guidance information for assessment	

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Range Statement

RANGE STATEMENT	
The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.	
Purchasing	Can cover one-off or multiple quantities of raw materials, components, equipment etc.
Purchasing schedules	• Purchasing specifications - determined from standard engineering drawings and data sheets, instructions written or verbal • Purchasing schedules - developed to site procedures and for pre-contracted suppliers/vendors
Paperwork/contracts	Generated manually or electronically utilising on-site system

Unit Sector(s)

Unit sector	

Co-requisite units

Co-requisite units		

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Competency field

Competency field	Materials handling

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MEM11015B Manage warehouse inventory system

Modification History

Release 2 - Prerequisite unit code corrected - MEM15002A

Unit Descriptor

Unit descriptor	This unit covers monitoring warehouse record keeping processes, supervising the production of inventory system reports and analysing inventory reports.

Application of the Unit

Application of the unit	This unit applies to the supervision of a warehouse inventory system used by other warehouse, production, maintenance or management personnel. Records can be computer based or manual. If computer based records are used, relevant computer units may also need to be accessed. Where skills are required to maintain/supervise application of quality procedures, then Unit MEM15012C (Maintain/supervise the application of quality procedures) should be selected. **Band**: **A** **Unit Weight**: **6**

Licensing/Regulatory Information

Not Applicable

Pre-Requisites

Prerequisite units	

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Prerequisite units		
Path 1	MEM11007B	Administer inventory procedures
	MEM15002A	Apply quality systems

Employability Skills Information

Employability skills	This unit contains employability skills.

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.

Elements and Performance Criteria

ELEMENT	**PERFORMANCE CRITERIA**
1. Monitor warehouse record keeping processes	1.1. Monitoring procedures are developed for requisition, purchase, shipping and invoice documentation. 1.2. Discrepancy reporting procedures are established for warehouse and other personnel in accordance with standard operating procedures. 1.3. Audit and archive procedures are followed according to standard operating procedures.
2. Supervise production of inventory system reports	2.1. Regular inventory reports are prepared in accordance with standard operating procedures. 2.2. Special stock level and other inventory reports are prepared as required. 2.3. Adjustments to inventory reporting procedures are made to meet internal and external customer

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ELEMENT	PERFORMANCE CRITERIA
	requirements.
3. Analyse inventory reports	3.1. Reconciliation of inventory records against production or purchase of sales records is undertaken in accordance with standard operating procedures. 3.2. Major trends not requiring sophisticated statistical analysis are identified. 3.3. Inventory system relationship to manufacturing process is understood.

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE
This section describes the skills and knowledge required for this unit.
Required skills
Look for evidence that confirms skills in: • producing, interpreting and analysing information on requisition, purchase, sales, shipping and invoice documentation, inventory records/reports, discrepancy reports, lists and other applicable reference documents • accessing/managing manual and electronic information • undertaking numerical operations and calculations • organising and analysing inventory information • communicating with staff about systems • monitoring warehouse documentation • reconciling inventory records • developing inventory monitoring/discrepancy procedure
Required knowledge
Look for evidence that confirms knowledge of: • inventory systems for example JIT, KANBAN, MRP2 • quality procedures • monitoring and discrepancy processes and procedures • warehouse organisation principles • storage of hazardous materials • auditing procedures • safe work practices and procedures • hazards and control measures associated with managing warehouse inventory

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REQUIRED SKILLS AND KNOWLEDGE
systems • relationship of manufacturing system to inventory process • techniques for developing inventory monitoring and discrepancy procedures

Evidence Guide

EVIDENCE GUIDE	
The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.	
Overview of assessment	A person who demonstrates competency in this unit must be able to manage a warehouse inventory system. Competency in this unit cannot be claimed until all prerequisites have been satisfied.
Critical aspects for assessment and evidence required to demonstrate competency in this unit	Assessors must be satisfied that the candidate can competently and consistently perform all elements of the unit as specified by the criteria, including required knowledge, and be capable of applying the competency in new and different situations and contexts.
Context of and specific resources for assessment	This unit may be assessed on the job, off the job or a combination of both on and off the job. Where assessment occurs off the job, that is the candidate is not in productive work, an appropriate simulation must be used where the range of conditions reflects realistic workplace situations. The competencies would be demonstrated by an individual working alone or as part of a team. The assessment environment should not disadvantage the candidate. This unit could be assessed in conjunction with other units addressing the safety, quality, communication, materials handling, recording and reporting associated with managing a warehouse inventory system or other units requiring the exercise of the skills and knowledge covered by this unit.
Method of assessment	Assessors should gather a range of evidence that is valid, sufficient, current and authentic. Evidence can be gathered through a variety of ways including direct

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EVIDENCE GUIDE	
	observation, supervisor's reports, project work, samples and questioning. Questioning should not require language, literacy and numeracy skills beyond those required in this unit. The candidate must have access to all tools, equipment, materials and documentation required and be permitted to refer to any relevant workplace procedures, product and manufacturing specifications, codes, standards, manuals and reference materials.
Guidance information for assessment	

Range Statement

RANGE STATEMENT	
The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.	
Monitoring procedures	Loss control, inventory system (paper based or electronic), maximum/minimum limits, rotation
Discrepancy	Inventory numbers, quantity, products, price, damaged goods, delivery date
Inventory system	Just-in-Time, KANBAN, MRP2

Unit Sector(s)

Unit sector	

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Co-requisite units

Co-requisite units		

Competency field

Competency field	Materials handling

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MEM11016B Order materials

Modification History

Not Applicable

Unit Descriptor

Unit descriptor	This unit covers preparing a purchase/order list and placing the order.

Application of the Unit

Application of the unit	This unit applies to purchasing activities carried out by a person other than the purchasing officer, such as maintenance, service, stores and warehouse personnel. Approval to order limits and delegations will be included in the standard operating procedures or purchasing policy **Band**: **A** **Unit Weight**: **2**

Licensing/Regulatory Information

Not Applicable

Pre-Requisites

Prerequisite units		

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Employability Skills Information

Employability skills	This unit contains employability skills.

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Prepare purchase order/list	1.1. Purchase order/list is prepared to standard operating procedures. 1.2. Material specifications, price limitations, quantities and delivery requirements are determined from instructions, requisitions etc.
2. Purchase order	2.1. Supplier/vendor is informed of requirements and specifications according to standard operating procedures. 2.2. Supplier/vendor is followed up to achieve delivery as required. 2.3. Where appropriate, goods are directly received and checked for damage. 2.4. Records/files are completed accurately according to standard operating procedures.

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE
This section describes the skills and knowledge required for this unit.

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REQUIRED SKILLS AND KNOWLEDGE
Required skills
Look for evidence that confirms skills in: • reading, interpreting and following information on instructions, specifications, standard operating procedures, requisitions, lists, records, files and other applicable reference documents • preparing an order/list • checking and clarifying order information • entering information onto manual and electronic proformas and standard workplace forms • accessing manual and electronic order information • communicating with suppliers, manufacturers and other personnel • checking for conformance to specifications • following verbal instructions • orally reporting routine information • record keeping
Required knowledge
Look for evidence that confirms knowledge of: • ordering policy (delegations, preferred suppliers etc.) • ordering procedures • safe work practices and procedures • hazards and control measures associated with ordering materials

Evidence Guide

EVIDENCE GUIDE	
The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.	
Overview of assessment	A person who demonstrates competency in this unit must be able to order materials.
Critical aspects for assessment and evidence required to demonstrate competency in this unit	Assessors must be satisfied that the candidate can competently and consistently perform all elements of the unit as specified by the criteria, including required knowledge, and be capable of applying the competency

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EVIDENCE GUIDE	
	in new and different situations and contexts.
Context of and specific resources for assessment	This unit may be assessed on the job, off the job or a combination of both on and off the job. Where assessment occurs off the job, that is the candidate is not in productive work, then an appropriate simulation must be used where the range of conditions reflects realistic workplace situations. The competencies covered by this unit would be demonstrated by an individual working alone or as part of a team. The assessment environment should not disadvantage the candidate. This unit could be assessed in conjunction with any other units addressing the safety, quality, communication, materials handling, recording and reporting associated with ordering materials or other units requiring the exercise of the skills and knowledge covered by this unit.
Method of assessment	Assessors should gather a range of evidence that is valid, sufficient, current and authentic. Evidence can be gathered through a variety of ways including direct observation, supervisor's reports, project work, samples and questioning. Questioning techniques should not require language, literacy and numeracy skills beyond those required in this unit of competency. The candidate must have access to all tools, equipment, materials and documentation required. The candidate must be permitted to refer to any relevant workplace procedures, product and manufacturing specifications, codes, standards, manuals and reference materials.
Guidance information for assessment	

Range Statement

RANGE STATEMENT
The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and

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RANGE STATEMENT	
regional contexts) may also be included.	
Material specifications	Material specifications can be gained from manufacturers' catalogues, from the item, from a drawing
Supplier/vendor	Local, national, international, preferred supplier

Unit Sector(s)

Unit sector	

Co-requisite units

Co-requisite units		

Competency field

Competency field	Materials handling

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MEM11017B Organise and lead stocktakes

Modification History

Not Applicable

Unit Descriptor

Unit descriptor	This unit covers planning a stocktake, briefing the participants, generating stocktake reports and adjusting inventory documentation.

Application of the Unit

Application of the unit	This unit applies to organising and leading periodical stocktakes in accordance with enterprise stocktaking policies, practices and procedures. It involves briefing the stocktake participants and reporting on the result. **Band**: **A** **Unit Weight**: **4**

Licensing/Regulatory Information

Not Applicable

Pre-Requisites

Prerequisite units		
Path 1	MEM11007B	Administer inventory procedures

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Employability Skills Information

Employability skills	This unit contains employability skills.

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Plan stocktake	1.1. Inventory lists are prepared and distributed. 1.2. Warehouse and/or production areas are allocated to each individual or team assisting in stocktake.
2. Brief participants in stocktake	2.1. Clear directions and appropriate documentation and equipment are provided to each individual or team participating in stocktake.
3. Generate stocktake reports	3.1. Written or computer reports are collected from individuals or teams on stock counts. 3.2. Inventory data is confirmed to match stock levels. 3.3. Stock discrepancy report is prepared and distributed according to standard operating procedure.
4. Adjust inventory documentation	4.1. Inventory documentation is reconciled to match physical stock in accordance with regulatory and operating procedures. 4.2. Stocktake information is reconciled with audit requirements.

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Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE
This section describes the skills and knowledge required for this unit.
Required skills
Look for evidence that confirms skills in: • preparing inventory lists and instructions on procedures to be followed • entering inventory information onto manual and electronic proformas and standard workplace forms • analysing and reporting results of stocktakes by manual and electronic means • performing calculations related to reconciling stocktake records • using communication skills to effectively instruct/direct stocktake participants
Required knowledge
Look for evidence that confirms knowledge of: • relevant inventory systems and procedures • recording systems and procedures • analysis and reporting methods/procedures • audit processes • safe work practices and procedures • hazards and control measures associated with organising and leading stocktakes

Evidence Guide

EVIDENCE GUIDE	
The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.	
Overview of assessment	A person who demonstrates competency in this unit must be able to organise and lead a stocktake. Competency in this unit cannot be claimed until all prerequisites have been satisfied.
Critical aspects for assessment and evidence required to demonstrate competency in this unit	Assessors must be satisfied that the candidate can competently and consistently perform all elements of the unit as specified by the criteria, including required knowledge, and be capable of applying the competency

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EVIDENCE GUIDE	
	in new and different situations and contexts.
Context of and specific resources for assessment	This unit may be assessed on the job, off the job or a combination of both on and off the job. Where assessment occurs off the job, that is the candidate is not in productive work, then an appropriate simulation must be used where the range of conditions reflects realistic workplace situations. The competencies covered by this unit would be demonstrated by an individual working alone or as part of a team. The assessment environment should not disadvantage the candidate. This unit could be assessed in conjunction with any other units addressing the safety, quality, communication, materials handling, recording and reporting associated with organising and leading a stocktake or other units requiring the exercise of the skills and knowledge covered by this unit.
Method of assessment	Assessors should gather a range of evidence that is valid, sufficient, current and authentic. Evidence can be gathered through a variety of ways including direct observation, supervisor's reports, project work, samples and questioning. Questioning techniques should not require language, literacy and numeracy skills beyond those required in this unit of competency. The candidate must have access to all tools, equipment, materials and documentation required. The candidate must be permitted to refer to any relevant workplace procedures, product and manufacturing specifications, codes, standards, manuals and reference materials.
Guidance information for assessment	

Range Statement

RANGE STATEMENT
The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work

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RANGE STATEMENT	
situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.	
Directions	Oral or written instructions, methodology, how to report discrepancies or damaged stock, timelines
Equipment	Calculators, scanners and portable computers
Inventory documentation	Reports on actual stock, damaged stock, out of date stock and discrepancies

Unit Sector(s)

Unit sector	

Co-requisite units

Co-requisite units		

Competency field

Competency field	Materials handling

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MEM11021B Perform advanced operation of load shifting equipment

Modification History

Not Applicable

Unit Descriptor

Unit descriptor	This unit covers determining lifting and loading requirements, working within areas of restricted movement or conditions of restricted visibility, identifying loads that need special care, and operating forklifts in special traffic conditions.

Application of the Unit

Application of the unit	This unit applies to advanced forklift and load shifting skills above those required for general operation. To be credited with this unit it is expected that an employee would be competent in situations indicated by all elements and performance criteria. This unit is intended to cover load shifting applications where special-purpose equipment/accessories requiring advanced operational skills are required. This would include heavy, out of balance, awkward and irregular shaped loads traversing over rough, broken or uneven surfaces, high lift situations, extremes of climate. Awareness of licensing requirements: Licenses may be required for load shifting equipment in some jurisdictions **Band**: **A** **Unit Weight**: **2**

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Licensing/Regulatory Information

Refer to Application of the Unit

Pre-Requisites

Prerequisite units		
Path 1	MEM11010B	Operate mobile load shifting equipment

Employability Skills Information

Employability skills	This unit contains employability skills.

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.

Elements and Performance Criteria

ELEMENT	**PERFORMANCE CRITERIA**
1. Determine lifting and loading requirements	1.1. Load is identified and checked against safe working load and final position/location and/or relevant specifications or regulations. 1.2. Special handling requirements of load are identified, if applicable. 1.3. Load is lifted correctly and placed in final position/location to achieve specified balance of

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ELEMENT	PERFORMANCE CRITERIA
	load.
2. Work in areas of restricted movement or conditions of restricted visibility	2.1. Load is collected and manoeuvred without damage to load or collision with obstacles according to standard operating procedures.
3. Identify and carry loads that require special care	3.1. Loads requiring special care are identified. 3.2. Loads are carried in accordance with special requirements of product according to standard operating procedures and/or regulations.
4. Operate forklifts in special traffic conditions	4.1. Forklifts are operated in areas of heavy traffic. 4.2. Forklifts are operated over difficult or uneven surfaces. 4.3. Forklifts are operated in areas shared with the general public, as required.

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

Look for evidence that confirms skills in:

- reading/interpreting specifications, regulations, load charts and standard operating procedures, including simple drawings
- selecting appropriate load shifting device
- identifying safe working loads
- identifying/managing special conditions and equipment
- operating in a complex mobile plant environment
- communicating with personnel on movement/location
- following oral instructions

Required knowledge

Look for evidence that confirms knowledge of:

- pre-operational checks
- licensing requirements and appropriate permits
- load protection

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REQUIRED SKILLS AND KNOWLEDGE
• operational environment • methods and techniques for loads requiring special care • hazards and control measures associated with this unit • use and application of personal protective equipment • safe work practices and procedures

Evidence Guide

EVIDENCE GUIDE	
The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.	
Overview of assessment	A person who demonstrates competency in this unit must be able to operate load shifting equipment in special conditions. Competency in this unit cannot be claimed until all prerequisites have been satisfied.
Critical aspects for assessment and evidence required to demonstrate competency in this unit	Assessors must be satisfied that the candidate can competently and consistently perform all elements of the unit as specified by the criteria, including required knowledge, and be capable of applying the competency in new and different situations and contexts.
Context of and specific resources for assessment	This unit may be assessed on the job, off the job or a combination of both on and off the job. Where assessment occurs off the job, that is the candidate is not in productive work, then an appropriate simulation must be used where the range of conditions reflects realistic workplace situations. The competencies covered by this unit would be demonstrated by an individual working alone or as part of a team. The assessment environment should not disadvantage the candidate. This unit could be assessed in conjunction with any other units addressing the safety, quality, communication, materials handling, recording and reporting associated with operating load shifting equipment in special conditions or other units requiring the exercise of the skills and knowledge covered by this unit.

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EVIDENCE GUIDE	
Method of assessment	Assessors should gather a range of evidence that is valid, sufficient, current and authentic. Evidence can be gathered through a variety of ways including direct observation, supervisor's reports, project work, samples and questioning. Questioning should not require language, literacy and numeracy skills beyond those required in this unit. The candidate must have access to all tools, equipment, materials and documentation required. The candidate must be permitted to refer to any relevant workplace procedures, product and manufacturing specifications, codes, standards, manuals and reference materials.
Guidance information for assessment	

Range Statement

RANGE STATEMENT	
The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.	
Safe working load	As defined in the manufacturers' specifications for lifting plant or gear
Loads requiring special care	• Non-standard load configuration • Fragile loads • Dangerous (volatile, explosive, sensitive) • Raising and lowering personnel on approved work platforms (forklift only)

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Unit Sector(s)

Unit sector	

Co-requisite units

Co-requisite units		

Competency field

Competency field	Materials handling

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MEM11022B Operate fixed/moveable load shifting equipment

Modification History

Not Applicable

Unit Descriptor

Unit descriptor	This unit covers conducting routine operation and safety checks of fixed/moveable load shifting equipment, picking up loads, shifting and placing loads.

Application of the Unit

Application of the unit	This unit applies to the operation of fixed/moveable load shifting equipment within the limits of manufacturers' recommended procedures and safe working loads. It applies to load shifting/lifting activities where knowledge of codes and signals is not required. When using dedicated lifting equipment or devices where decisions regarding loads and methods of attachment are not required, Unit MEM11011B (Undertake manual handling) should be selected. Awareness of licensing requirements - licenses may be required for fixed/moveable load shifting equipment in some jurisdictions. **Band**: **A** **Unit Weight**: **4**

Licensing/Regulatory Information

Refer to Application of the Unit

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Pre-Requisites

Prerequisite units		

Employability Skills Information

Employability skills	This unit contains employability skills.

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.

Elements and Performance Criteria

ELEMENT	**PERFORMANCE CRITERIA**
1. Conduct routine operation and safety checks of load shifting equipment	1.1. Operational principles of fixed/moveable load shifting equipment are understood. 1.2. Routine pre-operational checks are undertaken in accordance with manufacturers' specifications and regulatory safety requirements. 1.3. Non-compliance with specifications is reported using standard operating procedures.
2. Pick up loads	2.1. Appropriate load shifting device is selected for the load and shifting requirements. 2.2. Load shifting device is operated within design specifications and safe working load. 2.3. Load is lifted/rolled, ensuring balance, vision of

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ELEMENT	PERFORMANCE CRITERIA
	operation, safety of personnel and protection of load.
3. Shift loads	3.1. Where required, load is moved at an appropriate and safe speed using a safe and efficient path. 3.2. Path of movement is monitored for obstacles and hazards during shifting process.
4. Place loads	4.1. Loads are lowered at an appropriate and safe rate. 4.2. Loads are placed to ensure stability, protection of material and avoidance of hazards on site.

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

Look for evidence that confirms skills in:

- reading and interpreting routine information on instructions, specifications, load charts and standard operating procedures. May include simple drawings
- selecting and operating appropriate load shifting device
- communicating with others about movement of equipment
- checking and clarifying task-related information
- identifying the safe working load in relation to the capacity of the crane and lifting gear
- following oral instruction
- safely lifting, moving and placing loads

Required knowledge

Look for evidence that confirms knowledge of:

- operational principles of fixed/moveable load shifting equipment
- pre-operational checks
- loads and lifting attachments
- load chart and safe working loads (SWL)
- awareness of licensing requirements
- load protection
- operational environment
- appropriate permits

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REQUIRED SKILLS AND KNOWLEDGE
• use and application of personal protective equipment • safe work practices and procedures • hazards and control measures associated with operating fixed/moveable load shifting equipment

Evidence Guide

EVIDENCE GUIDE	
The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.	
Overview of assessment	A person who demonstrates competency in this unit must be able to operate fixed/moveable load shifting equipment to move and place loads.
Critical aspects for assessment and evidence required to demonstrate competency in this unit	Assessors must be satisfied that the candidate can competently and consistently perform all elements of the unit as specified by the criteria, including required knowledge, and be capable of applying the competency in new and different situations and contexts.
Context of and specific resources for assessment	This unit may be assessed on the job, off the job or a combination of both. Where assessment occurs off the job, i.e. the candidate is not in productive work, an appropriate simulation must be used where the range of conditions reflects realistic workplace situations. The competencies covered by this unit would be demonstrated by an individual working alone or as part of a team. The assessment environment should not disadvantage the candidate. This unit could be assessed in conjunction with any other units addressing the safety, quality, communication, materials handling, recording and reporting associated with operating fixed/moveable load shifting equipment or other units requiring the exercise of the skills and knowledge covered by this unit.
Method of assessment	Assessors should gather a range of evidence that is valid, sufficient, current and authentic. Evidence can be gathered through a variety of ways including direct

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EVIDENCE GUIDE	
	observation, supervisor's reports, project work, samples and questioning. Questioning techniques should not require language, literacy and numeracy skills beyond those required in this unit of competency. The candidate must have access to all tools, equipment, materials and documentation required. The candidate must be permitted to refer to any relevant workplace procedures, product and manufacturing specifications, codes, standards, manuals and reference materials.
Guidance information for assessment	

Range Statement

RANGE STATEMENT	
The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.	
Fixed/moveable load shifting equipment	• Pendant cranes • Yard, workshop and travelling overhead cranes • Monorail hoists and chain blocks • Pivoting and slewing jibs rails (manual, air or electric etc.)
Pre-operational checks	Hazards warning lights, wire rope, lifting blocks, compass, operation of controls, safe working load marked as determined by manufacturers' specifications and standard operating procedures
Obstacles and hazards	Overhead cables, electrical hazards (live rails), personnel, obstacles (fixed and moveable), swing of the load and failure of slings

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Unit Sector(s)

Unit sector	

Co-requisite units

Co-requisite units		

Competency field

Competency field	Materials handling

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MEM12001B Use comparison and basic measuring devices

Modification History

Not Applicable

Unit Descriptor

Unit descriptor	This unit covers sorting items using basic comparison measuring equipment, and maintaining the equipment.

Application of the Unit

Application of the unit	Measurements are conducted in a production environment or at a work station. Work is undertaken autonomously or as part of teamwork. All comparative measurements are undertaken to standard operating procedures and to regulatory and legislative requirements. **Band**: **A** **Unit Weight**: **2**

Licensing/Regulatory Information

Not Applicable

Pre-Requisites

Prerequisite units		

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Employability Skills Information

Employability skills	This unit contains employability skills.

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Use comparison and/or basic measuring devices	1.1. Measuring devices are identified and used to undertake required comparisons or measurements using standard operating procedures. 1.2. Checking or sorting of items is undertaken using comparison and/or basic measuring device according to standard operating procedures.
2. Maintain comparison and/or basic measuring devices	2.1. Basic care and storage is maintained to manufacturers' standards or standard operating procedures.

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE
This section describes the skills and knowledge required for this unit.
Required skills

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REQUIRED SKILLS AND KNOWLEDGE
Look for evidence that confirms skills in: • using device in accordance with standard operating procedures • storing and maintaining devices • using basic numeracy skills for undertaking comparison measurements • following oral instructions and written standard operating procedures
Required knowledge
Look for evidence that confirms knowledge of: • use and application of various comparison or measurement devices • procedures for the correct use of devices • procedures for maintaining and storing devices • hazards and control measures associated with conducting measurements, including housekeeping • safe work practices and procedures

Evidence Guide

EVIDENCE GUIDE	
The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.	
Overview of assessment	A person who demonstrates competency in this unit must be able to use comparison and basic measuring devices.
Critical aspects for assessment and evidence required to demonstrate competency in this unit	Assessors must be satisfied that the candidate can competently and consistently perform all elements of the unit as specified by the criteria, including required knowledge, and be capable of applying the competency in new and different situations and contexts.
Context of and specific resources for assessment	This unit may be assessed on the job, off the job or a combination of both on and off the job. Where assessment occurs off the job, that is the candidate is not in productive work, then an appropriate simulation must be used where the range of conditions reflects realistic workplace situations. The competencies covered by this unit would be demonstrated by an individual working alone or as part of a team. The assessment environment

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EVIDENCE GUIDE	
	should not disadvantage the candidate. This unit could be assessed in conjunction with any other units addressing the safety, quality, communication, materials handling, recording and reporting associated with using comparison and basic measuring devices or other units requiring the exercise of the skills and knowledge covered by this unit.
Method of assessment	Assessors should gather a range of evidence that is valid, sufficient, current and authentic. Evidence can be gathered through a variety of ways including direct observation, supervisor's reports, project work, samples and questioning. Questioning techniques should not require language, literacy and numeracy skills beyond those required in this unit of competency. The candidate must have access to all tools, equipment, materials and documentation required. The candidate must be permitted to refer to any relevant workplace procedures, product and manufacturing specifications, codes, standards, manuals and reference materials.
Guidance information for assessment	

Range Statement

RANGE STATEMENT	
The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.	
Basic measuring devices	Linear measuring devices measuring to within 1mm graduation - may include rules, tapes and retractable tapes
Comparisons	Comparison of length, angle, size, temperature, pressure, weight, voltage, resistance and amperage

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RANGE STATEMENT	
Comparison measuring devices	Go/no-go devices, thread angle and taper gauges, temperature gauges, pressure gauges, measuring gauges and overlay indicators, templates, digital devices and pre-set verniers and micrometers

Unit Sector(s)

Unit sector	

Co-requisite units

Co-requisite units		

Competency field

Competency field	Measurement

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MEM12002B Perform electrical/electronic measurement

Modification History

Not Applicable

Unit Descriptor

Unit descriptor	This unit covers selecting and using basic electro-measuring devices to check variables and the ability to maintain the devices.

Application of the Unit

Application of the unit	This unit applies to the measurement of voltage, current, resistance, power, frequency etc. on a.c. and d.c. circuits up to 1000 volts, using appropriate measuring devices and for a range of general applications. Measurement skills for specific applications and context are covered by other units. For simple measurement tasks such as reading of fixed devices, testing continuity, and tasks requiring the use of devices mounted in measuring jigs etc. Unit MEM12023A (Perform engineering measurements) and/or Unit MEM12001B (Use comparison and basic measuring devices) should be considered. If electrical/electronic measuring devices require the connection or disconnection of circuitry, the appropriate units should also be selected. In circumstances where the application of this unit or where legislation dictates, relevant units covering first aid and/or emergency procedures should also be considered. **Band**: **A** **Unit Weight**: **2**

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Licensing/Regulatory Information

Not Applicable

Pre-Requisites

Prerequisite units		

Employability Skills Information

Employability skills	This unit contains employability skills.

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.

Elements and Performance Criteria

ELEMENT	**PERFORMANCE CRITERIA**
1. Use electro-measuring devices to measure variables	1.1. Appropriate device or equipment and setting is selected to obtain required measurement. 1.2. Appropriate connections are made to obtain required measurement according to standard operating procedure. 1.3. Readings are obtained and interpreted correctly and conversion is made where necessary into the required units of measurement.

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ELEMENT	PERFORMANCE CRITERIA
2. Maintain electro devices	2.1. Routine care and storage of devices is undertaken to manufacturer's specifications or standard operating procedures.

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

Look for evidence that confirms skills in:

- setting and using electro-measuring devices
- obtaining and interpreting specified electrical measurements
- selecting appropriate measuring devices
- performing arithmetic operations required to convert measurements into appropriate units of measurement
- maintaining and storing electro-measuring devices
- reading and interpreting information on standard operating procedures

Required knowledge

Look for evidence that confirms knowledge of:

- terminology and concepts relating to electrical/electronic measurement
- the selection of different measuring devices for particular applications within the scope of this unit
- specifications of selected electro-measuring devices
- the application of the settings on each electro-measuring device
- the procedures for obtaining electrical/electronic measurements
- procedures for connecting electro-measuring devices to circuitry
- the correct scale for each setting on the electro-measuring device
- the scale factor to be applied to readings taken from the electro-measuring device
- the units applying to electrical and electronic measurements
- maintenance and storage requirements for a range of electro-measuring devices
- that devices can impact on the circuit condition
- relevant State/Territory or Commonwealth legislative and regulatory requirements, industry standards, NOHSC guidelines and code of practice
- hazards and control measures associated with electrical/electronic measurement
- safe work practices and procedures

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REQUIRED SKILLS AND KNOWLEDGE
• use and application of personal protective equipment

Evidence Guide

EVIDENCE GUIDE	
The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.	
Overview of assessment	A person who demonstrates competency in this unit must be able to perform electrical/electronic measurement.
Critical aspects for assessment and evidence required to demonstrate competency in this unit	Assessors must be satisfied that the candidate can competently and consistently perform all elements of the unit as specified by the criteria, including required knowledge, and be capable of applying the competency in new and different situations and contexts.
Context of and specific resources for assessment	This unit may be assessed on the job, off the job or a combination of both on and off the job. Where assessment occurs off the job, that is the candidate is not in productive work, then an appropriate simulation must be used where the range of conditions reflects realistic workplace situations. The competencies covered by this unit would be demonstrated by an individual working alone or as part of a team. The assessment environment should not disadvantage the candidate. This unit could be assessed in conjunction with any other units addressing the safety, quality, communication, materials handling, recording and reporting associated with electrical/electronic measurement or other units requiring the exercise of the skills and knowledge covered by this unit.
Method of assessment	Assessors should gather a range of evidence that is valid, sufficient, current and authentic. Evidence can be gathered through a variety of ways including direct observation, supervisor's reports, project work, samples and questioning. Questioning techniques should not require language, literacy and numeracy skills beyond those required in this unit of competency. The candidate

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EVIDENCE GUIDE	
	must have access to all tools, equipment, materials and documentation required. The candidate must be permitted to refer to any relevant workplace procedures, product and manufacturing specifications, codes, standards, manuals and reference materials.
Guidance information for assessment	

Range Statement

RANGE STATEMENT	
The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.	
Appropriate device or equipment	Analogue/digital multi meters, clip-on meter, oscilloscopes, potentiometers determined according to the type of measurement being taken
Routine care	Zero and linear adjustments, inspection, check for serviceability and safe operation

Unit Sector(s)

Unit sector	

Co-requisite units

Co-requisite units	

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Co-requisite units		

Competency field

Competency field	Measurement

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MEM12023A Perform engineering measurements

Modification History

Not Applicable

Unit Descriptor

Unit descriptor	This unit covers performing measurement skills requiring straightforward use of mechanical measuring devices and associated calculations.

Application of the Unit

Application of the unit	This unit covers straightforward measurement using devices which incorporate visual indications representing units of measurement. It applies to the use of measuring devices in a range of manufacturing, engineering and related environments. It includes, where required, adjustment of measuring devices through simple means and typically includes zeroing or scale adjustment. Measurements may be expressed in metric or imperial units. All measurements are undertaken to standard operating procedures. Electrical/electronic devices used are those not requiring the connection or disconnection of circuitry. Work is undertaken autonomously or part of team environment, in the field, work station or workshops. For straightforward use of comparison or pre-set measuring devices, Unit MEM12001B (Use comparison and basic measuring devices) should be accessed. **Band**: **A** **Unit Weight**: **5**

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Licensing/Regulatory Information

Not Applicable

Pre-Requisites

Prerequisite units		

Employability Skills Information

Employability skills	This unit contains employability skills.

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.

Elements and Performance Criteria

ELEMENT	**PERFORMANCE CRITERIA**
1. Select appropriate device or equipment	1.1. Measurement requirements are determined from specifications. 1.2. Appropriate device or equipment is selected according to standard operating procedures, to achieve required outcome.
2. Obtain measurements using a range of measuring devices	2.1. Correct and appropriate measuring technique is used. 2.2. Measurements are accurately obtained .

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ELEMENT	PERFORMANCE CRITERIA
	2.3. Dimensions are determined or verified using basic calculations, where required.
3. Maintain measuring devices	3.1. Routine care and storage of devices is undertaken to manufacturers' specifications or standard operating procedures. 3.2. Routine adjustments to devices are made and checked.
4. Communicate measurements as required	4.1. Measurements are accurately recorded, where required. 4.2. Freehand sketch which depicts required information is prepared, as required.

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

Look for evidence that confirms skills in:

- selecting the appropriate measuring device for given measuring tasks
- using appropriate measuring technique
- reading all measurements taken accurately to the finest graduation of the selected measuring device
- handling and storing measuring devices in accordance with manufacturers' specifications or standard operating procedures
- verifying all measuring devices before use
- making, where appropriate, routine adjustments to measuring devices
- reading, interpreting and following information on written job instructions, specifications, standard operating procedures, charts, lists, drawings and other applicable reference documents
- planning and sequencing operations
- checking and clarifying task related information
- checking for conformance to specifications
- undertaking numerical operations involving addition, subtraction, multiplication, division, fractions and decimals within the scope of this unit
- preparing drawings as required

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REQUIRED SKILLS AND KNOWLEDGE
Required knowledge
Look for evidence that confirms knowledge of: • correct application of a range of measuring devices • correct and appropriate measuring technique for a range of measuring devices • addition, subtraction, multiplication, division, fractions, decimals to the scope required by this unit • procedures for handling and storing a range of measuring devices • procedures for adjusting and zeroing a range of measuring devices • methods of communicating measurements by drawings, as required • safe work practices and procedures

Evidence Guide

EVIDENCE GUIDE	
The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.	
Overview of assessment	A person who demonstrates competency in this unit must be able to perform engineering measurements.
Critical aspects for assessment and evidence required to demonstrate competency in this unit	Assessors must be satisfied that the candidate can competently and consistently perform all elements of the unit as specified by the criteria, including required knowledge, and be capable of applying the competency in new and different situations and contexts.
Context of and specific resources for assessment	This unit may be assessed on the job, off the job or a combination of both on and off the job. Where assessment occurs off the job, that is the candidate is not in productive work, then an appropriate simulation must be used where the range of conditions reflects realistic workplace situations. The competencies covered by this unit would be demonstrated by an individual working alone or as part of a team. The assessment environment should not disadvantage the candidate. This unit could be assessed in conjunction with any other units addressing the safety, quality, communication,

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EVIDENCE GUIDE	
	materials handling, recording and reporting associated with performing engineering measurements or other units requiring the exercise of the skills and knowledge covered by this unit.
Method of assessment	Assessors should gather a range of evidence that is valid, sufficient, current and authentic. Evidence can be gathered through a variety of ways including direct observation, supervisor's reports, project work, samples and questioning. Questioning techniques should not require language, literacy and numeracy skills beyond those required in this unit of competency. The candidate must have access to all tools, equipment, materials and documentation required. The candidate must be permitted to refer to any relevant workplace procedures, product and manufacturing specifications, codes, standards, manuals and reference materials.
Guidance information for assessment	

Range Statement

RANGE STATEMENT	
The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.	
Specifications	Drawings, sketches, job instructions, schematics, diagrams, technical manuals
Range of measuring devices	Protractors, combination squares, set squares, dial indicators, thermometers, tapes, rules, micrometers, vernier-scaled measuring equipment
Basic calculations	Calculations needed to assist in determining measurements where a reading of the graduated device is not sufficient, for example subtracting one measurement from another to give a third

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RANGE STATEMENT	
	measurement. Examples of calculations needed are addition, subtraction, multiplication, division, fractions and decimals. Calculations may be made using a calculator
Routine adjustments	Validating the device using simple zeroing or scale adjustment
Measurements	Measuring length, squareness, flatness, angle, roundness, clearances or any other measurements that can be read off analog, digital or other measuring device
Information	Dimensions, instructions, base line or datum points

Unit Sector(s)

Unit sector	

Co-requisite units

Co-requisite units		

Competency field

Competency field	Measurement

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MEM12024A Perform computations

Modification History

Not Applicable

Unit Descriptor

Unit descriptor	This unit covers estimating approximate answers to arithmetical problems, carrying out basic calculations involving percentages and proportions, and determining simple ratios and averages. The unit includes producing and interpreting simple charts and graphs.

Application of the Unit

Application of the unit	This unit applies in manufacturing, engineering or related environments. It includes the application of the four rules of algebraic expressions, extracting information from drawings, diagrams, graphs and charts and producing simple charts and graphs. Data may be derived from readings taken or may be computer generated. Applications can include computations associated with pressure, volume, temperature, heat, speed, power, elasticity, density, mass, force etc. Calculations may be performed using pen and paper or on a calculator. **Band**: **A** **Unit Weight**: **3**

Licensing/Regulatory Information

Not Applicable

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Pre-Requisites

Prerequisite units		

Employability Skills Information

Employability skills	This unit contains employability skills.

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.

Elements and Performance Criteria

ELEMENT	**PERFORMANCE CRITERIA**
1. Determine work requirement	1.1. Required outcomes are established from job instructions. 1.2. Data is obtained from relevant sources and interpreted correctly. 1.3. Required calculation method is determined to suit the application, including selection of relevant arithmetic operations and/or formulae. 1.4. Expected results are estimated, including rounding off, as appropriate.
2. Perform calculations	2.1. Calculation method is applied correctly. 2.2. Correct answer is obtained. 2.3. Answer is checked against estimation.

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ELEMENT	PERFORMANCE CRITERIA
3. Produce charts and graphs from given information	3.1. Data is transposed accurately to produce charts or graphs. 3.2. Charts or graphs accurately reflect data on which they are based.

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

Look for evidence that confirms skills in:

- performing calculations involving whole numbers using all four basic rules
- performing calculations involving length, perimeter, area and volume
- checking calculated answers for accuracy
- rounding off estimated answers
- expressing information presented in fractional or decimal format as a percentage
- selecting appropriate formulae for the given application
- substituting the correct values for each term in the relevant formulae
- using appropriate mathematical operations
- performing calculations involving ratios or proportions
- determining required information from appropriate charts or graphs
- producing simple charts or graphs from given information or observations made
- selecting appropriate scales and using them in the production of charts and graphs
- marking appropriate limits clearly on the graph or chart
- reading, interpreting and following information on written job instructions, specifications, standard operating procedures, charts, lists, drawings and other applicable reference documents
- planning and sequencing operations
- checking and clarifying task related information
- checking for conformance to specifications
- undertaking numerical operations, geometry and calculations/formulae within the scope of this unit

Required knowledge

Look for evidence that confirms knowledge of:

- formula applicable to the determination of perimeter, area and volume of simple

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REQUIRED SKILLS AND KNOWLEDGE
geometric shapes • techniques for estimating approximate answers • reasons for using dimensions with the same units when calculating length, perimeter, area and volume • concepts of perimeter, area and volume • procedures for rounding off figures when estimating approximate answers • mixed numbers, decimals, fractions and whole numbers • concept of percentage • procedures to be followed in converting a decimal to a percentage • procedures for carrying out calculations involving fractions and using each of the four basic rules • procedures to be followed on converting a fraction to a percentage • sources of appropriate formulae • reasons for ensuring that the units of each term are consistent with the formulae selected • procedures for converting given units to those required for use in formulae • concepts of ratio and proportion • given ratios and proportions can be expressed in terms of whole numbers, fractions and decimal fractions • scales applicable to the axes of the graphs or charts • three types of charts and/or graphs used in the individual's field of work • where appropriate, upper and lower limits of acceptability applicable to data entered on a graph or chart • where appropriate, the trends indicated by the slope or gradient of a graph • where appropriate, the action to be taken when given trends occur or set limits are approached on graphs or charts • procedures for drawing 'lines of best fit' • the trends indicated by the graphs or charts drawn • hazards and control measures associated with performing computations, including housekeeping • safe work practices and procedures

Evidence Guide

EVIDENCE GUIDE
The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.

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EVIDENCE GUIDE	
Overview of assessment	A person who demonstrates competency in this unit must be able to perform computations.
Critical aspects for assessment and evidence required to demonstrate competency in this unit	Assessors must be satisfied that the candidate can competently and consistently perform all elements of the unit as specified by the criteria, including required knowledge, and be capable of applying the competency in new and different situations and contexts.
Context of and specific resources for assessment	This unit may be assessed on the job, off the job or a combination of both on and off the job. Where assessment occurs off the job, that is the candidate is not in productive work, then an appropriate simulation must be used where the range of conditions reflects realistic workplace situations. The competencies covered by this unit would be demonstrated by an individual working alone or as part of a team. The assessment environment should not disadvantage the candidate. This unit could be assessed in conjunction with any other units addressing the safety, quality, communication, materials handling, recording and reporting associated with performing computations or other units requiring the exercise of the skills and knowledge covered by this unit.
Method of assessment	Assessors should gather a range of evidence that is valid, sufficient, current and authentic. Evidence can be gathered through a variety of ways including direct observation, supervisor's reports, project work, samples and questioning. Questioning techniques should not require language, literacy and numeracy skills beyond those required in this unit of competency. The candidate must have access to all tools, equipment, materials and documentation required. The candidate must be permitted to refer to any relevant workplace procedures, product and manufacturing specifications, codes, standards, manuals and reference materials.
Guidance information for assessment	

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Range Statement

RANGE STATEMENT	
The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.	
Relevant sources	Charts, graphs, diagrams, measurement data, reference manuals and specifications
Application	Applications can include computations associated with pressure, volume, temperature, heat, speed, power, elasticity, density, mass, force etc.
Arithmetic operations	• Application of subtraction, addition, multiplication and division • Manipulation of decimals, fractions and mixed numbers and whole numbers • Determining of percentages • Performing of algebraic expressions • Calculation of proportions and ratios
Charts and graphs	Simple histograms, control charts, pie charts etc.

Unit Sector(s)

Unit sector	

Co-requisite units

Co-requisite units		

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Competency field

Competency field	Measurement

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MEM13001B Perform emergency first aid

Modification History

Not Applicable

Unit Descriptor

Unit descriptor	This unit covers performing basic emergency first aid, EAR (expired air resuscitation) and CPR (cardiopulmonary resuscitation).

Application of the Unit

Application of the unit	This unit applies to administration of basic emergency first aid treatment and the management of life threatening situations where an unconscious person requires expired air resuscitation (EAR) and cardiopulmonary resuscitation (CPR). This unit does not meet all of the requirements expected of designated First Aid Officers. The competencies required for situations involving isolation of persons from hazardous electrical situations are covered in Unit MEM18049C (Disconnect/reconnect fixed wired equipment up to 1000 volts a.c. and 1500 volts d.c.) and Unit MEM10003B (Install and test electrical wiring and circuits up to 1000 volts a.c. and 1500 volts d.c.). **Band**: **A** **Unit Weight**: **1**

Licensing/Regulatory Information

Not Applicable

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Pre-Requisites

Prerequisite units		

Employability Skills Information

Employability skills	This unit contains employability skills.

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.

Elements and Performance Criteria

ELEMENT	**PERFORMANCE CRITERIA**
1. Perform emergency first aid	1.1. Correct procedures for EAR (expired air resuscitation) and CPR (cardiopulmonary resuscitation) are demonstrated on a mannequin. 1.2. First aid treatment of injuries is carried out correctly. 1.3. Details of first aid administered are accurately recorded. 1.4. Understanding of relevant regulatory and legislative requirements is demonstrated.

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Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

Look for evidence that confirms skills in:

- planning and sequencing operations
- checking and clarifying task-related information
- performing EAR (expired air resuscitation) and CPR (cardiopulmonary resuscitation) on a mannequin
- simulated first aid treatment for the full range of injuries covered by the range statement
- reading, interpreting and following emergency first aid procedures and related documents
- entering information onto proformas and other relevant documents
- communicating effectively with injured persons, appropriate personnel and authorities

Required knowledge

Look for evidence that confirms knowledge of:

- applicable regulatory and legislative requirements
- use and application of any applicable personal protective equipment
- hazards and control measures associated with performing emergency first aid, including housekeeping
- instances where EAR and CPR should be performed
- procedures for preparing a person for the administration of EAR and CPR
- procedures for performing EAR and CPR on a child and an adult
- dangers and precautions to be taken when administering EAR and CPR
- emergency first aid procedures for injuries covered by the scope of this unit
- details to be recorded of first aid administered
- procedures and reasons for recording first aid administered
- relevant regulatory and legislative requirements with respect to emergency first aid
- the impact of regulatory/legislative requirements on the individual and others
- safe work practices and procedures

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Evidence Guide

EVIDENCE GUIDE	
The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.	
Overview of assessment	A person who demonstrates competency in this unit must be able to perform emergency first aid.
Critical aspects for assessment and evidence required to demonstrate competency in this unit	Assessors must be satisfied that the candidate can competently and consistently perform all elements of the unit as specified by the criteria, including required knowledge, and be capable of applying the competency in new and different situations and contexts.
Context of and specific resources for assessment	This unit may be assessed on the job, off the job or a combination of both on and off the job. Where assessment occurs off the job, that is the candidate is not in productive work, then an appropriate simulation must be used where the range of conditions reflects realistic workplace situations. The competencies covered by this unit would be demonstrated by an individual working alone or as part of a team. The assessment environment should not disadvantage the candidate. This unit could be assessed in conjunction with any other units addressing the safety, quality, communication, materials handling, recording and reporting associated with performing emergency first aid or other units requiring the exercise of the skills and knowledge covered by this unit.
Method of assessment	Assessors should gather a range of evidence that is valid, sufficient, current and authentic. Evidence can be gathered through a variety of ways including direct observation, supervisor's reports, project work, samples and questioning. Questioning techniques should not require language, literacy and numeracy skills beyond those required in this unit of competency. The candidate must have access to all tools, equipment, materials and documentation required. The candidate must be permitted to refer to any relevant workplace procedures, product and manufacturing specifications, codes, standards, manuals and reference materials.
Guidance information for assessment	

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Range Statement

RANGE STATEMENT	
The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.	
Injuries	Burns/scalds, fractures, cuts and abrasions, poisoning, foreign bodies in eyes, concussion and shock

Unit Sector(s)

Unit sector	

Co-requisite units

Co-requisite units		

Competency field

Competency field	Occupational health and safety

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MEM13002B Undertake occupational health and safety activities in the workplace

Modification History

Not Applicable

Unit Descriptor

Unit descriptor	This unit covers applying principles of Occupational Health and Safety (OHS) in the workplace and undertaking a safety risk assessment for the employee's area of responsibility.

Application of the Unit

Application of the unit	This unit applies to employees requiring additional OHS competencies beyond those inherent in their job. **Band**: **A** **Unit Weight**: **3**

Licensing/Regulatory Information

Not Applicable

Pre-Requisites

Prerequisite units		

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Employability Skills Information

Employability skills	This unit contains employability skills.

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Apply principles of OHS in a workplace	1.1. Basic OHS principles of hazard identification, risk assessment and control are described. 1.2. Understanding of OHS legislation as it is applied in the workplace is demonstrated.
2. Carry out safety audit	2.1. Regular safety audits in the area of responsibility are carried out in accordance with appropriate OHS standards.
3. Identify health and safety improvements	3.1. OHS issues and suggestions for improvements are made to OHS Representatives and Committees as appropriate. 3.2. On the basis of safety audits or as required, hazards are identified and recommendations for their control are made. 3.3. Contributions to safety improvements are made using standard operating procedures. 3.4. OHS training needs are identified.
4. Follow requirements of enterprise OHS program	4.1. Requirements of the OHS program are satisfied within the area of responsibility. This includes for example, accident investigation and emergency procedures.

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Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

Look for evidence that confirms skills in:

- performing safety audits
- making safety improvements
- initiating OHS training
- meeting requirements of the OHS program and procedures in the individual's area(s) of responsibility
- reading and interpreting audit and safety-related documentation
- following audit and OHS procedures
- entering information onto audit reports and other relevant documents
- communicating effectively about OHS activities with workplace personnel

Required knowledge

Look for evidence that confirms knowledge of:

- principles of hazard identification, assessment and control as applied to the workplace
- procedures for hazard identification, assessment and control
- application of OHS legislation in the workplace
- procedures for conducting safety audits
- safety standards applicable to the individual's area(s) of responsibility
- the frequency at which safety audits should be conducted
- procedures for implementing OHS improvements
- the means of rectifying given or identified hazards
- reasons for selecting the chosen means of rectifying the hazard
- the authority to whom recommended OHS improvements are to be reported
- procedures for making safety improvements
- requirement for OHS training in the individual's area(s) of responsibility
- objectives of OHS training
- procedures for initiating OHS training
- accident investigation procedures
- emergency OHS procedures
- the role of the individual in carrying out accident investigations and emergency procedures

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Evidence Guide

EVIDENCE GUIDE	
The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.	
Overview of assessment	A person who demonstrates competency in this unit must be able to undertake OHS activities in the workplace.
Critical aspects for assessment and evidence required to demonstrate competency in this unit	Assessors must be satisfied that the candidate can competently and consistently perform all elements of the unit as specified by the criteria, including required knowledge, and be capable of applying the competency in new and different situations and contexts.
Context of and specific resources for assessment	This unit may be assessed on the job, off the job or a combination of both on and off the job. Where assessment occurs off the job, that is the candidate is not in productive work, then an appropriate simulation must be used where the range of conditions reflects realistic workplace situations. The competencies covered by this unit would be demonstrated by an individual working alone or as part of a team. The assessment environment should not disadvantage the candidate. This unit could be assessed in conjunction with any other units addressing the safety, quality, communication, materials handling, recording and reporting associated with undertaking occupational health and safety activities in the workplace or other units requiring the exercise of the skills and knowledge covered by this unit.
Method of assessment	Assessors should gather a range of evidence that is valid, sufficient, current and authentic. Evidence can be gathered through a variety of ways including direct observation, supervisor's reports, project work, samples and questioning. Questioning techniques should not require language, literacy and numeracy skills beyond those required in this unit of competency. The candidate must have access to all tools, equipment, materials and documentation required. The candidate must be permitted to refer to any relevant workplace procedures, product and manufacturing specifications, codes, standards, manuals and reference materials.

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EVIDENCE GUIDE	
Guidance information for assessment	

Range Statement

RANGE STATEMENT	
The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.	

Risk assessment	Risk assessment is a process that involves:
	• analysing the risk to identify influencing factors and the range of potential consequences
	• assessing:
	  • the effectiveness of existing controls
	  • the likelihood of each consequence considering exposure and hazard level
	• and combining these in some way to obtain a level of risk

Unit Sector(s)

Unit sector	

Co-requisite units

Co-requisite units		

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Co-requisite units		

Competency field

Competency field	Occupational health and safety

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MEM13003B Work safely with industrial chemicals and materials

Modification History

Not Applicable

Unit Descriptor

Unit descriptor	This unit covers using personal protective equipment (PPEs), identifying the particular hazards and emergency procedures, and observing safe working practices in that environment.

Application of the Unit

Application of the unit	This unit may be applied in a workplace in which materials and chemicals which are subject to codes and regulations are stored and used, for example, chemicals, solvents, dangerous materials, acids, noxious waste products etc. Evidence of competency is to encompass the satisfactory application of current State/Territory OHS legislation, standards and codes of practice, and the hierarchy of hazard control measures with elimination, substitution, isolation and engineering control measures being selected before safe work practices and PPEs. This unit describes the competencies which are beyond those safety requirements normally applied in the workplace as described in Unit MEM13014A (Apply principles of occupational health and safety in the work environment) or specifically described in individual units such as welding. **Band**: **A** **Unit Weight**: **2**

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Licensing/Regulatory Information

Not Applicable

Pre-Requisites

Prerequisite units		

Employability Skills Information

Employability skills	This unit contains employability skills.

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.

Elements and Performance Criteria

ELEMENT	**PERFORMANCE CRITERIA**
1. Use personal protective equipment	1.1. Correct and appropriate safety clothing including personal protective equipment is selected and used correctly based on information in relevant material safety data sheet (MSDS).
2. Identify emergency procedures	2.1. Emergency procedures and plan relevant to the particular work environment are documented, understood and demonstrated as laid down in approved safety instructions.

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ELEMENT	PERFORMANCE CRITERIA
3. Observe safe working practices	3.1. Hazardous areas and materials are identified and special handling procedures are identified and understood. 3.2. Permits to work (if necessary) are obtained. 3.3. All equipment and hazardous materials are used in accordance with relevant OHS legislation, manufacturers' instructions and standard operating procedures. 3.4. All site-specific safety policies, safety signs, symbols and labels are correctly identified and understood. 3.5. Material safety data sheets are understood and applied. 3.6. Safe manual handling procedures (including equipment) are used. 3.7. Decanted chemicals and storage is to State/Territory dangerous goods and OHS legislation and requirements. 3.8. Housekeeping duties are performed according to standard operating procedures to maintain a safe working environment.

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE
This section describes the skills and knowledge required for this unit.
Required skills
Look for evidence that confirms skills in: • undertaking risk assessment • communicating with others • performing proper manual handling techniques • interpreting safety signage, labelling and placarding
Required knowledge
Look for evidence that confirms knowledge of: • dangerous goods classification and labelling/placarding • testing, use and maintenance of PPE

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REQUIRED SKILLS AND KNOWLEDGE
• inherent hazardous properties of the chemicals to be used • interpretation of the relevant MSDS • basic fire fighting procedures • site-specific emergency plan procedures • chemical spill confinement procedures • dangerous occurrence (near miss) reporting procedures • hierarchy of control

Evidence Guide

EVIDENCE GUIDE	
The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.	
Overview of assessment	A person who demonstrates competency in this unit must be able to work safely and efficiently with various chemicals.
Critical aspects for assessment and evidence required to demonstrate competency in this unit	Assessors must be satisfied that the candidate can competently and consistently perform all elements of the unit as specified by the criteria, including required knowledge, and be capable of applying the competency in new and different situations and contexts.
Context of and specific resources for assessment	This unit may be assessed on the job, off the job or a combination of both on and off the job. Where assessment occurs off the job, that is the candidate is not in productive work, then an appropriate simulation must be used where the range of conditions reflects realistic workplace situations. The competencies covered by this unit would be demonstrated by an individual working alone or as part of a team. The assessment environment should not disadvantage the candidate. This unit could be assessed in conjunction with any other units addressing the safety, quality, communication, materials handling, recording and reporting associated with working safely with industrial chemicals and materials or other units requiring the exercise of the skills and knowledge covered by this unit.

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EVIDENCE GUIDE	
Method of assessment	Assessors should gather a range of evidence that is valid, sufficient, current and authentic. Evidence can be gathered through a variety of ways including direct observation, supervisor's reports, project work, samples and questioning. Questioning techniques should not require language, literacy and numeracy skills beyond those required in this unit of competency. The candidate must have access to all tools, equipment, materials and documentation required. The candidate must be permitted to refer to any relevant workplace procedures, product and manufacturing specifications, codes, standards, manuals and reference materials.
Guidance information for assessment	

Range Statement

RANGE STATEMENT	
The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.	
Personal protective equipment	Personal protective may include appropriate: • goggles/face shields • respirators • air supplied or self-contained helmets • safety boots, gloves and appropriate clothes/garments
Safe working practices	• 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

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RANGE STATEMENT	
	• Work to be undertaken in safe 'thermal' environments and all possible ignition sources are to be identified and controlled
Storage	All storage containers (minor quantities and in consumer packages) are suitable for chemical exposure and are properly labelled and/or placarded. Chemical manifests are updated at completion of work activity
State or Territory legislative requirements	Appropriate OHS, dangerous goods acts and regulations, Australian standards, Australian Code for the Transport of Dangerous Goods by Road and Rail (ADGC), NOHSC codes of practice

Unit Sector(s)

Unit sector	

Co-requisite units

Co-requisite units		

Competency field

Competency field	Occupational health and safety

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MEM13010A Supervise occupational health and safety in an industrial work environment.

Modification History

Single band identifier removed to clarify dual status

Unit Descriptor

Unit descriptor	This unit covers supervising implementation of OHS practices and procedures in a section of a workplace that is within an industrial workplace.

Application of the Unit

Application of the unit	This unit applies to a person who requires the skill and knowledge to supervise others in the implementation and monitoring of occupational health and safety (OHS) of a workplace section. It applies to manufacturing, production, engineering and related industry environments. **Band:** This unit has dual status and is to be regarded as both a Specialisation band A unit and Specialisation band B unit for progression to C5 (AQF level V). **Unit Weight**: **4**

Licensing/Regulatory Information

Not Applicable

Pre-Requisites

Prerequisite units	

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Prerequisite units		
Path 1	MEM13002B	Undertake occupational health and safety activities in the workplace

Employability Skills Information

Employability skills	This unit contains employability skills.

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.

Elements and Performance Criteria

ELEMENT	**PERFORMANCE CRITERIA**
1. Implement OHS procedures for work site or section	1.1. Legislative requirements for the work section and work supervisor are identified. 1.2. Consultation mechanisms are established for the work section. 1.3. Personal Protective Equipment (PPE) is allocated to all staff as required. 1.4. Safety and housekeeping practices and procedures are established for the work site or section. 1.5. Tools and equipment are checked for suitability and serviceability. 1.6. Safety monitoring procedures are established. 1.7. Non-conformances with legislative requirements are

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ELEMENT	PERFORMANCE CRITERIA
	assessed and addressed.
2. Assess risks in the work site or section	2.1. Hazards in the work site or section are identified. 2.2. Risks are assessed.
3. Apply risk management strategies for work section	3.1. Appropriate risk control measures are implemented. 3.2. Control measures are assessed for effectiveness in controlling the risk. 3.3. Hazards are monitored. 3.4. The need for expert advice to manage risks is determined. 3.5. Accident investigations are conducted as required to determine cause.
4. Supervise others in the implementation of OHS procedures in the work site or section	4.1. Communication on OHS matters is supervised. 4.2. OHS training needs are identified for the work section. 4.3. Workplace OHS training and communication activity is coordinated, evaluated and documented according to legislative requirements and organisational procedure. 4.4. Statutory OHS training requirements are coordinated and documented according to legislative requirements and organisational procedure.
5. Maintain records and statistics	5.1. Accident/incident records are maintained. 5.2. Records are analysed for trends, and particular problem areas are identified.

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE
This section describes the skills and knowledge required for this unit.
Required skills
Look for evidence that confirms skills in: • keeping records/minutes of discussions with consultative forums on OHS matters • scheduling meetings with the relevant consultative forums to discuss OHS matters • participating in consultative forums • communicating with staff regarding OHS matters

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REQUIRED SKILLS AND KNOWLEDGE

- identifying OHS training needs in the workplace
- supervising OHS training implementation
- interpreting and following information on OHS legislation, workplace practices and procedures, written job instructions, specifications, standard operating procedures, charts, lists, and other applicable reference documents
- keeping records for monitoring the effectiveness of work practices and procedures with respect to the safety of the working environment
- investigating accidents in accordance with standard workplace procedures
- obtaining results of safety audits in accordance with workplace procedures
- obtaining expertise external to the workplace to assist in the identification and control of workplace hazards
- maintaining accident and incident records in accordance with standard workplace procedures

Required knowledge

Look for evidence that confirms knowledge of:

- legislative requirements for the workplace and supervisory responsibilities
- procedures for initiating discussions with the relevant consultative forums
- relevant consultative forums
- the frequency of discussions to be held with the relevant consultative forums
- organisational OHS communication requirements
- OHS training practices, procedures and options available
- work practices and procedures developed in conjunction with the relevant consultative forums
- the effect of work practices and procedures on the safety of the working environment
- procedures for monitoring the success of the work practices and procedures developed
- variables to be recorded during the monitoring process
- sources of information on occupational health and safety issues
- procedures for conducting accident investigations
- the hierarchy of hazard control measures
- reasons for progressively implementing the hierarchy of control of hazards
- the likely causes of accidents investigated
- principles of hazard control
- the mechanisms for controlling hazards
- the areas of occupational health and safety for which the workplace lacks acknowledged expertise
- procedures for accessing expertise external to the workplace
- procedures for recording accidents and incidents
- the probable causes of trends or problem areas

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REQUIRED SKILLS AND KNOWLEDGE
• hazards and control measures relevant for the work site or section, including housekeeping • safe work practices and procedures

Evidence Guide

EVIDENCE GUIDE	
The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.	
Overview of assessment	A person who demonstrates competency in this unit must be able to supervise occupational health and safety in an industrial work environment. Competency in this unit cannot be claimed until all prerequisites have been satisfied.
Critical aspects for assessment and evidence required to demonstrate competency in this unit	Assessors must be satisfied that the candidate can competently and consistently perform all elements of the unit as specified by the criteria, including required knowledge, and be capable of applying the competency in new and different situations and contexts.
Context of and specific resources for assessment	This unit may be assessed on the job, off the job or a combination of both. Where assessment occurs off the job, i.e. the candidate is not in productive work, an appropriate simulation must be used where the range of conditions reflects realistic workplace situations. The competencies covered by this unit would be demonstrated by an individual working alone or as part of a team. The assessment environment should not disadvantage the candidate. This unit could be assessed in conjunction with any other units addressing the safety, quality, communication, materials handling, recording and reporting associated with supervising occupational health and safety in an industrial work environment or other units requiring the exercise of the skills and knowledge covered by this unit.
Method of assessment	Assessors should gather a range of evidence that is valid, sufficient, current and authentic. Evidence can be

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EVIDENCE GUIDE	
	gathered through a variety of ways including direct observation, supervisor's reports, project work, samples and questioning. Questioning techniques should not require language, literacy and numeracy skills beyond those required in this unit of competency. The candidate must have access to all tools, equipment, materials and documentation required. The candidate must be permitted to refer to any relevant workplace procedures, product and manufacturing specifications, codes, standards, manuals and reference materials.
Guidance information for assessment	

Range Statement

RANGE STATEMENT	
The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.	
Consultation mechanisms	OHS committees, OHS representation, toolbox meetings, safety meetings, record keeping systems
Personal Protective Equipment	Safety boots, gloves, goggles, glasses, ear muffs, hard hats, clothing, respirators or masks, reflective vests
Safety and housekeeping practices and procedures	Emergency/evacuation procedures, tool and equipment cleaning, maintenance and storage procedures, safety reporting and documentation procedures, barricades and signage, procedures for managing hazardous chemicals and materials
Hazards	Risks associated with tools and equipment, lighting, gases, electricity and water, toxic and hazardous substances, flammable materials and fire hazards, lifting practices, working in confined spaces, working at height, spillage, waste and

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RANGE STATEMENT	
	debris, noise, mobile plants such as forklifts and front end loaders, moving parts of machinery, gravity (falls from heights), dusts
Risks	The chance of something happening that will result in injury or damage. It is measured in terms of consequences and likelihood
Risk control measures	Elimination of the hazard, substitution with a lesser hazard, isolation of personnel from the hazard, engineering controls, administrative controls (e.g. procedures and training), personal protective equipment
Communication	Signage and labelling, hazard identification notices, access to policies, procedures, SOPs, etc., meeting notices, documentation procedures, reporting procedures, meetings
Supervised	Coordinated, implemented, referred, delegated, facilitated, monitored, documented
Training needs	Induction programs, technical training, coaching and mentoring, supervision, specialist training, on site/off site, involvement of training specialists, organisational training requirements, referral to training personnel

Unit Sector(s)

Unit sector	

Co-requisite units

Co-requisite units		

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Competency field

Competency field	Occupational health and safety

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MEM14001B Schedule material deliveries

Modification History

Not Applicable

Unit Descriptor

Unit descriptor	This unit covers identifying material requirements and scheduling material delivery.

Application of the Unit

Application of the unit	This unit applies to the estimating, planning and scheduling of material deliveries so that materials are available in quantities and specifications required. This unit is not intended to be used by personnel carrying out maintenance and installation. If scheduling is based on engineering drawings and supporting engineering data, appropriate skill units should be accessed. **Band**: **B** **Unit Weight**: **8**

Licensing/Regulatory Information

Not Applicable

Pre-Requisites

Prerequisite units		

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Employability Skills Information

Employability skills	This unit contains employability skills.

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Identify material requirements	1.1. Materials required are identified from appropriate documentation including type and quality. 1.2. Quantities required are estimated in accordance with standard operating procedures.
2. Schedule material delivery	2.1. Delivery requirements and dates are determined from production plans or job sequencing requirements. 2.2. Material supply is followed up and problems reported. 2.3. Material orders are processed in accordance with established organisational practice and procedures.

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

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REQUIRED SKILLS AND KNOWLEDGE This section describes the skills and knowledge required for this unit.
Required skills
Look for evidence that confirms skills in: • communicating • planning • assessing • reading and interpreting engineering specifications • organising information • prioritising • entering routine and familiar information onto proformas and standard workplace forms
Required knowledge
Look for evidence that confirms knowledge of: • identification of material specifications from appropriate documentation • established organisational practice and procedures relating to estimating, ordering and follow up of materials • interpretation of production plans, or job sequencing requirements • safe workplace practices and procedures

Evidence Guide

EVIDENCE GUIDE	
The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.	
Overview of assessment	A person who demonstrates competency in this unit must be able to plan and schedule material deliveries.
Critical aspects for assessment and evidence required to demonstrate competency in this unit	Assessors must be satisfied that the candidate can competently and consistently perform all elements of the unit as specified by the criteria, including required knowledge, and be capable of applying the competency in new and different situations and contexts.
Context of and specific resources for	This unit may be assessed on the job, off the job or a

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EVIDENCE GUIDE	
assessment	combination of both on and off the job. Where assessment occurs off the job, that is the candidate is not in productive work, then an appropriate simulation must be used where the range of conditions reflects realistic workplace situations. The competencies covered by this unit would be demonstrated by an individual working alone or as part of a team. The assessment environment should not disadvantage the candidate. This unit could be assessed in conjunction with any other units addressing the safety, quality, communication, materials handling, recording and reporting associated with the planning and scheduling of material deliveries or other units requiring the exercise of the skills and knowledge covered by this unit.
Method of assessment	Assessors should gather a range of evidence that is valid, sufficient, current and authentic. Evidence can be gathered through a variety of ways including direct observation, supervisor's reports, project work, samples and questioning. Questioning should not require language, literacy and numeracy skills beyond those required in this unit. The candidate must have access to all tools, equipment, materials and documentation required. The candidate must be permitted to refer to any relevant workplace procedures, product and manufacturing specifications, codes, standards, manuals and reference materials.
Guidance information for assessment	

Range Statement

RANGE STATEMENT
The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.

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RANGE STATEMENT	
Appropriate documentation	Bills of materials, parts lists, catalogues, service manuals, engineering drawings etc.
Schedule	Undertaken in accordance with established organisational practices and procedures, based on familiar processes

Unit Sector(s)

Unit sector	

Co-requisite units

Co-requisite units		

Competency field

Competency field	Planning

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MEM14002B Undertake basic process planning

Modification History

Not Applicable

Unit Descriptor

Unit descriptor	This unit covers reviewing process specifications and determining the production sequence.

Application of the Unit

Application of the unit	This unit applies to one of a range of processes in manufacturing: machining, pressing, assembly and to a stage of the overall production process. It does not apply to interfacing between processes. If planning is based on engineering drawings and supporting engineering data, appropriate skills units should be accessed. **Band**: **B** **Unit Weight**: **8**

Licensing/Regulatory Information

Not Applicable

Pre-Requisites

Prerequisite units		

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Employability Skills Information

Employability skills	This unit contains employability skills.

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Review process specifications	1.1. Supporting engineering and production data is examined, where required. 1.2. The production processes to be used are determined. 1.3. Specifications are obtained and examined.
2. Determine production sequence	2.1. Steps required for the process are identified and flow charts are produced where required in accordance with standard operating procedures. 2.2. Material and parts lists are prepared in accordance with standard operating procedures. 2.3. Tooling and/or equipment requirements are documented in accordance with standard operating procedures. 2.4. Quality assurance steps and specifications are identified and incorporated into process steps. 2.5. Process steps are documented and clearly represented in accordance with standard operating procedures.

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Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE This section describes the skills and knowledge required for this unit.
Required skills
Look for evidence that confirms skills in: • obtaining, reading and interpreting engineering and production data • preparing flow charts • communicating • planning • assessing • reading and interpreting engineering specifications • organising information • prioritising
Required knowledge
Look for evidence that confirms knowledge of: • production processes found within the organisation • tooling and/or equipment requirements for workplace processes • quality assurance requirements • safe workplace practices and procedures

Evidence Guide

EVIDENCE GUIDE	
The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.	
Overview of assessment	A person who demonstrates competency in this unit must be able to undertake basic process planning.
Critical aspects for assessment and evidence required to demonstrate competency in this unit	Assessors must be satisfied that the candidate can competently and consistently perform all elements of the unit as specified by the criteria, including required

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EVIDENCE GUIDE	
	knowledge, and be capable of applying the competency in new and different situations and contexts.
Context of and specific resources for assessment	This unit may be assessed on the job, off the job or a combination of both on and off the job. Where assessment occurs off the job, that is the candidate is not in productive work, then an appropriate simulation must be used where the range of conditions reflects realistic workplace situations. The competencies covered by this unit would be demonstrated by an individual working alone or as part of a team. The assessment environment should not disadvantage the candidate. This unit could be assessed in conjunction with any other units addressing the safety, quality, communication, materials handling, recording and reporting associated with basic process planning or other units requiring the exercise of the skills and knowledge covered by this unit.
Method of assessment	Assessors should gather a range of evidence that is valid, sufficient, current and authentic. Evidence can be gathered through a variety of ways including direct observation, supervisor's reports, project work, samples and questioning. Questioning techniques should not require language, literacy and numeracy skills beyond those required in this unit of competency. The candidate must have access to all tools, equipment, materials and documentation required. The candidate must be permitted to refer to any relevant workplace procedures, product and manufacturing specifications, codes, standards, manuals and reference materials.
Guidance information for assessment	

Range Statement

RANGE STATEMENT
The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work

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RANGE STATEMENT	
situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.	
Production processes	Work planned over a specified timeframe, taking into account required and available resources
Steps	Steps and milestones against which progress can be checked

Unit Sector(s)

Unit sector	

Co-requisite units

Co-requisite units		

Competency field

Competency field	Planning

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MEM14003B Undertake basic production scheduling

Modification History

Not Applicable

Unit Descriptor

Unit descriptor	This unit covers identifying production requirements and capacities and preparing schedules for production of a component/part.

Application of the Unit

Application of the unit	The unit applies to the scheduling of the manufacture of a single component, or a single assembly function, or for a single small production work unit or production cell, or a single production process where there are only a small number of constraints or variables. **Band**: **B** **Unit Weight**: **8**

Licensing/Regulatory Information

Not Applicable

Pre-Requisites

Prerequisite units		

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Employability Skills Information

Employability skills	This unit contains employability skills.

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Identify production requirements and capacities	1.1. Engineering production data is identified and obtained in accordance with workplace procedures. 1.2. Inventory capacities and requirements are identified and obtained in accordance with workplace procedures. 1.3. Procurement and supply requirements and constraints are identified and obtained in accordance with workplace procedures. 1.4. Production capacity and constraints are identified and obtained in accordance with workplace procedures. 1.5. Standard times are identified and obtained in accordance with workplace procedures.
2. Prepare schedule for production of a component/part	2.1. Production of component is scheduled in accordance with production, inventory, procurements, time constraints, supply capacities and requirements. 2.2. Schedule is documented in accordance with accepted organisation procedures.

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Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE This section describes the skills and knowledge required for this unit.
Required skills
Look for evidence that confirms skills in: • obtaining, reading and interpreting production process data and procedure • prioritising • communicating • time management • organising • documenting • using project management tools such as Gantt Charts • analysing • performing arithmetic calculations
Required knowledge
Look for evidence that confirms knowledge of: • scheduling techniques • production methods • quality assurance requirements • inventory policies • procurement, supply requirements and constraints • general staffing levels, capabilities and application of standard times • machine set-up, capability and application of standard times • enterprise safety requirements and directives

Evidence Guide

EVIDENCE GUIDE	
The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.	
Overview of assessment	A person who demonstrates competency in this unit must be able to schedule basic production.

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EVIDENCE GUIDE	
Critical aspects for assessment and evidence required to demonstrate competency in this unit	Assessors must be satisfied that the candidate can competently and consistently perform all elements of the unit as specified by the criteria, including required knowledge, and be capable of applying the competency in new and different situations and contexts.
Context of and specific resources for assessment	This unit may be assessed on the job, off the job or a combination of both on and off the job. Where assessment occurs off the job, that is the candidate is not in productive work, then an appropriate simulation must be used where the range of conditions reflects realistic workplace situations. The competencies covered by this unit would be demonstrated by an individual working alone or as part of a team. The assessment environment should not disadvantage the candidate. This unit could be assessed in conjunction with any other units addressing the safety, quality, communication, materials handling, recording and reporting associated with basic scheduling or other units requiring the exercise of the skills and knowledge covered by this unit.
Method of assessment	Assessors should gather a range of evidence that is valid, sufficient, current and authentic. Evidence can be gathered through a variety of ways including direct observation, supervisor's reports, project work, samples and questioning. Questioning should not require language, literacy and numeracy skills beyond those required in this unit. The candidate must have access to all tools, equipment, materials and documentation required. The candidate must be permitted to refer to any relevant workplace procedures, product and manufacturing specifications, codes, standards, manuals and reference materials.
Guidance information for assessment	

Range Statement

RANGE STATEMENT
The range statement relates to the unit of competency as a whole. It allows for different

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RANGE STATEMENT	
work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.	

Unit Sector(s)

Unit sector	

Co-requisite units

Co-requisite units		

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Competency field

Competency field	Planning

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MEM14004A Plan to undertake a routine task

Modification History

Not Applicable

Unit Descriptor

Unit descriptor	This unit covers a person planning their own work where tasks involve one or more steps or functions and are carried out routinely on a regular basis. It includes the concepts of following routine instructions, specifications and requirements.

Application of the Unit

Application of the unit	This unit covers essential skill and knowledge that underpin all units within the Metal and Engineering Training Package. Instructions, such as standard operation sheets, are provided. Clear specifications and requirements, including quality and time allowances are also provided. The task and associated planning activity are carried out under supervision. The plan may or may not be documented. The task involves one or more steps or functions carried out routinely on a regular basis. The planning activity does not require judgment to be made in relation to priorities or time limitations. **Band**: **A** **Unit Weight**: There is no unit weighting for this unit.

Licensing/Regulatory Information

Not Applicable

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Pre-Requisites

Prerequisite units		

Employability Skills Information

Employability skills	This unit contains employability skills.

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.

Elements and Performance Criteria

ELEMENT	**PERFORMANCE CRITERIA**
1. Identify task requirements	1.1. Instructions and procedures are obtained, understood and where necessary clarified. 1.2. Relevant specifications for task outcomes are obtained, understood and where necessary clarified. 1.3. Task outcomes are identified. 1.4. Task requirements such as completion time and quality measures are identified.
2. Plan steps required to complete task	2.1. Based on instructions and specifications provided, the individual steps or activities required to undertake the task are understood and where necessary clarified. 2.2. Sequence of activities is identified.

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ELEMENT	PERFORMANCE CRITERIA
	2.3. Plan is checked to ensure it complies with specifications and task requirements.
3. Review plan	3.1. Effectiveness of plan is reviewed against specifications and task requirements. 3.2. If necessary, plan is revised to better meet specifications and task requirements.

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE
This section describes the skills and knowledge required for this unit.
Required skills
Look for evidence that confirms skills in: • obtaining instructions for tasks from correct source of information (job card, supervisor, work colleagues and others) • clarifying tasks and required outcomes with appropriate personnel where necessary • identifying relevant specifications from documentation, job cards, or other information source • preparing plans for tasks • sequencing activities • comparing planned steps against specifications and task requirements • communicating and interpreting information appropriate to the scope of this unit
Required knowledge
Look for evidence that confirms knowledge of: • correct sources of information for a particular task • procedures for obtaining instructions and clarification • specifications for the task • hazards and established control measures associated with the routine task, including housekeeping • safe work practices and procedures

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Evidence Guide

EVIDENCE GUIDE	
The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.	
Overview of assessment	A person who demonstrates competency in this unit must be able to plan to undertake a routine task.
Critical aspects for assessment and evidence required to demonstrate competency in this unit	Assessors must be satisfied that the candidate can competently and consistently perform all elements of the unit as specified by the criteria, including required knowledge, and be capable of applying the competency in new and different situations and contexts.
Context of and specific resources for assessment	This unit may be assessed on the job, off the job or a combination of both on and off the job. Where assessment occurs off the job, that is the candidate is not in productive work, then an appropriate simulation must be used where the range of conditions reflects realistic workplace situations. The competencies covered by this unit would be demonstrated by an individual working alone or as part of a team. The assessment environment should not disadvantage the candidate. This unit could be assessed in conjunction with any other units addressing the safety, quality, communication, materials handling, recording and reporting associated with planning to undertake a routine task or other units requiring the exercise of the skills and knowledge covered by this unit.
Method of assessment	Assessors should gather a range of evidence that is valid, sufficient, current and authentic. Evidence can be gathered through a variety of ways including direct observation, supervisor's reports, project work, samples and questioning. Questioning techniques should not require language, literacy and numeracy skills beyond those required in this unit of competency. The candidate must have access to all tools, equipment, materials and documentation required. The candidate must be permitted to refer to any relevant workplace procedures, product and manufacturing specifications, codes, standards, manuals and reference materials.
Guidance information for assessment	

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Range Statement

RANGE STATEMENT	
The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.	

Specifications	• Specific product or process information, such as:
	  • outcome and performance requirements
	  • quality requirements and checks
	  • quantity
	• Specifications are conveyed verbally or on familiar standard forms, such as on job sheets

Requirements	• General requirements necessary to carry out routine tasks, such as:
	  • dedicated tools and equipment
	  • materials and parts
	  • work procedures
	  • completion time
	  • safety measures and equipment
	• Requirements and instructions are supplied verbally or on familiar standard forms, such as on job sheets. Instructions are carried out under supervision and in accordance with established procedures

Unit Sector(s)

Unit sector	

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Co-requisite units

Co-requisite units		

Competency field

Competency field	Planning

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MEM14005A Plan a complete activity

Modification History

Not Applicable

Unit Descriptor

Unit descriptor	This unit covers planning activities which, whilst following established procedures, may require a response and modification of procedures or choice of different procedures to deal with unforeseen developments.

Application of the Unit

Application of the unit	The unit covers the development of plans for individual complete activities and may include the use of planning techniques and tools. The activity may require prioritising of the individual plan components to facilitate the meeting of the objectives. Examples of activities to be planned may include: fault diagnosis and repair of an item of equipment, a modification of an established sequence of assembly tasks. However the activities may require a response and modification of procedures or a choice of different procedures to deal with unforeseen developments. Activities are normally performed by the individual undertaking the planned activity, and associated reports are completed as required. Planning will be related to familiar work tasks and environments and be performed to standard operating procedures. Where more extensive reporting requiring research and forming conclusions is required, refer to Unit 16.14 (Report technical information). **Band**: **A** **Unit Weight**: **4**

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Licensing/Regulatory Information

Not Applicable

Pre-Requisites

Prerequisite units		

Employability Skills Information

Employability skills	This unit contains employability skills.

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.

Elements and Performance Criteria

ELEMENT	**PERFORMANCE CRITERIA**
1. Identify activity requirements	1.1. Activity outcomes and objectives are identified and clarified with appropriate persons. 1.2. Activity requirements, including resources, overall timeframe, quality requirements and criteria for acceptable completion are identified and clarified. 1.3. Relevant specifications and procedures are obtained

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ELEMENT	PERFORMANCE CRITERIA
	and clarified.
2. Plan process to complete activity	2.1. The individual components of the activity are identified and prioritised. 2.2. Planning tools and techniques are selected and used according to the needs of the activity. 2.3. The plan is checked for accuracy and conformance to instructions and requirements.
3. Modify plan	3.1. The plan is referred to and modified as necessary to overcome unforeseen difficulties or developments that occur as work progresses. 3.2. The results of the activity are reviewed against the plan, and possible future improvements to plan are identified.

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

Look for evidence that confirms skills in:

- obtaining, reading, interpreting and following information on written job instructions, specifications, standard operating procedures, charts, lists, drawing and other applicable reference documents
- preparing a plan including sequential steps that will enable the activity to be completed
- modifying the plan where appropriate, to take account of difficulties or developments that occur while following the prepared plan
- planning and sequencing activities
- checking and clarifying task-related information
- checking for conformance to specifications
- using numerical operations, geometry and calculations/formulae within the scope of this unit
- using planning techniques such as scheduling, time management, brainstorming, setting of goals and defined outcomes, prioritising, review and evaluation strategies

Required knowledge

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REQUIRED SKILLS AND KNOWLEDGE
Look for evidence that confirms knowledge of: • tasks to be performed • person/s who can clarify the objectives, requirements and specifications • specifications relevant to the tasks to be performed • outcomes to be achieved • timeframe for activity completion • quality requirements of the product or service • priority of each step in the plan • reasons for the relative priority of each step • modifications to the plan to overcome a range of unforeseen situations • hazards and control measures associated with planning the complete activity, including housekeeping • safe work practices and procedures

Evidence Guide

EVIDENCE GUIDE	
The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.	
Overview of assessment	A person who demonstrates competency in this unit must be able to plan a complete activity.
Critical aspects for assessment and evidence required to demonstrate competency in this unit	Assessors must be satisfied that the candidate can competently and consistently perform all elements of the unit as specified by the criteria, including required knowledge, and be capable of applying the competency in new and different situations and contexts.
Context of and specific resources for assessment	This unit may be assessed on the job, off the job or a combination of both on and off the job. Where assessment occurs off the job, that is the candidate is not in productive work, then an appropriate simulation must be used where the range of conditions reflects realistic workplace situations. The competencies covered by this unit would be demonstrated by an individual working alone or as part of a team. The assessment environment should not disadvantage the candidate.

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EVIDENCE GUIDE	
	This unit could be assessed in conjunction with any other units addressing the safety, quality, communication, materials handling, recording and reporting associated with planning a complete activity or other units requiring the exercise of the skills and knowledge covered by this unit.
Method of assessment	Assessors should gather a range of evidence that is valid, sufficient, current and authentic. Evidence can be gathered through a variety of ways including direct observation, supervisor's reports, project work, samples and questioning. Questioning techniques should not require language, literacy and numeracy skills beyond those required in this unit of competency. The candidate must have access to all tools, equipment, materials and documentation required. The candidate must be permitted to refer to any relevant workplace procedures, product and manufacturing specifications, codes, standards, manuals and reference materials.
Guidance information for assessment	

Range Statement

RANGE STATEMENT	
The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.	

Requirements	• Formal or informal information about the task required, such as:
	  • timeframe
	  • quality requirements
	  • outcome and performance requirements
	  • job history
	  • checks and tests

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RANGE STATEMENT	
	• special reporting requirements • tools and equipment • materials and parts • reference documents • Requirements and instructions are supplied verbally or in written form such as on job sheets. Instructions are carried out in accordance with established procedures
Specifications	Technical task related information conveyed verbally or as found in: • task lists • instructions • manufacturer manuals • diagrams and schematics • technical drawings and sketches • parts lists • computer records
Planning techniques and tools	Scheduling, time management, brainstorming, setting goals and defined outcomes, prioritising, review and evaluation strategies

Unit Sector(s)

Unit sector	

Co-requisite units

Co-requisite units		

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Competency field

Competency field	Planning

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MEM15001B Perform basic statistical quality control

Modification History

Not Applicable

Unit Descriptor

Unit descriptor	This unit covers taking samples and applying a statistical process to monitor production.

Application of the Unit

Application of the unit	This unit applies to the collation and interpretation of statistical data in the context of statistical quality control, for example, tally, run or control charts. Uncontrolled variations are reported to appropriate authority. When the production and interpretation of charts and graphs not dependent on knowledge and understanding of the implications for quality are required, Unit MEM12024A (Perform computations) should be accessed. **Band**: **A** **Unit Weight**: **2**

Licensing/Regulatory Information

Not Applicable

Pre-Requisites

Prerequisite units		

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Employability Skills Information

Employability skills	This unit contains employability skills.

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Take samples	1.1. Difference between population and sample is understood and various sampling schemes are applied in accordance with standard operating procedures.
2. Apply statistical process to monitor production	2.1. Concept of variation in terms of average and spread is understood. Data is used to produce relevant statistical information. 2.2. Data is interpreted accurately and information is presented to appropriate authority according to standard operating procedures.

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE
This section describes the skills and knowledge required for this unit.

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REQUIRED SKILLS AND KNOWLEDGE
Required skills
Look for evidence that confirms skills in: • reading, interpreting and following information on written job instructions, standard operating procedures, charts, lists, drawings and other applicable reference documents • applying statistical process control procedures in accordance with instructions to a given production process • obtaining data from samples including average, range and random or assignable causes • producing tally, run or control charts from sampling data • reporting information from sampling data • checking and clarifying task-related information • completing proformas and standard workplace forms
Required knowledge
Look for evidence that confirms knowledge of: • the difference between population and sample, and the concept of variation in terms of average and range, random and assignable causes • numerical operations and statistical calculations/formulae within the scope of this unit • statistical process control procedures, which may include Six Sigma etc. and the sampling procedures to be followed • the types of charts that can be produced to assist monitoring of products including run charts, tally charts, histograms, control charts • procedures for reporting sample data information • use and application of personal protective equipment • safe work practices and procedures

Evidence Guide

EVIDENCE GUIDE	
The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.	
Overview of assessment	A person who demonstrates competency in this unit must

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EVIDENCE GUIDE	
	be able to perform basic statistical quality control.
Critical aspects for assessment and evidence required to demonstrate competency in this unit	Assessors must be satisfied that the candidate can competently and consistently perform all elements of the unit as specified by the criteria, including required knowledge, and be capable of applying the competency in new and different situations and contexts.
Context of and specific resources for assessment	This unit may be assessed on the job, off the job or a combination of both on and off the job. Where assessment occurs off the job, that is the candidate is not in productive work, then an appropriate simulation must be used where the range of conditions reflects realistic workplace situations. The competencies covered by this unit would be demonstrated by an individual working alone or as part of a team. The assessment environment should not disadvantage the candidate. This unit could be assessed in conjunction with any other units addressing the safety, quality, communication, materials handling, recording and reporting associated with performing basic statistical quality control or other units requiring the exercise of the skills and knowledge covered by this unit.
Method of assessment	Assessors should gather a range of evidence that is valid, sufficient, current and authentic. Evidence can be gathered through a variety of ways including direct observation, supervisor's reports, project work, samples and questioning. Questioning techniques should not require language, literacy and numeracy skills beyond those required in this unit of competency. The candidate must have access to all tools, equipment, materials and documentation required. The candidate must be permitted to refer to any relevant workplace procedures, product and manufacturing specifications, codes, standards, manuals and reference materials.
Guidance information for assessment	

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Range Statement

RANGE STATEMENT	
The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.	
Sampling schemes	Agreed customer plans, Acceptable Quality Level (AQL) and Average Outgoing Quality Level (AOQL) plans, Shainin, Six Sigma etc.
Relevant statistical information	Average, range and process control data and the plotting of charts such as line graphs, run charts, tally charts, histograms, control charts, random and assignable causes etc.

Unit Sector(s)

Unit sector	

Co-requisite units

Co-requisite units		

Competency field

Competency field	Quality

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MEM15002A Apply quality systems

Modification History

Not Applicable

Unit Descriptor

Unit descriptor	This unit covers working within a quality improvement system, either individually or in a team situation.

Application of the Unit

Application of the unit	This unit is applicable for any work within a quality improvement system in a manufacturing, engineering or related environment. The definition of customer is wide and applies to the next person or organisation receiving the product or service. Application may include quality inspection of own or other employee's work up to the level of the employee's technical competence. **Band**: **A** **Unit Weight**: **2**

Licensing/Regulatory Information

Not Applicable

Pre-Requisites

Prerequisite units		

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Employability Skills Information

Employability skills	This unit contains employability skills.

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Work within a quality system	1.1. Instructions and procedures are followed and duties are performed in accordance with requirements of quality improvement system. 1.2. Conformance to specifications is ensured. 1.3. Defects are detected and reported according to standard operating procedures. 1.4. Performance of operation or quality of product or service is monitored to ensure customer satisfaction.
2. Engage in quality improvement	2.1. Current performance is assessed. 2.2. Established performance measures are identified. 2.3. Specifications and standard operating procedures are identified. 2.4. Defects are detected and reported according to standard operating procedures. 2.5. Process improvement procedures are participated in. 2.6. The improvement of internal/external customer/supplier relationships is participated in. 2.7. Performance of operation or quality of product or service is monitored to ensure customer satisfaction.

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Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

Look for evidence that confirms skills in:

- reading, interpreting and following information on written job sheets, instructions, standard operating procedures and drawings
- checking and clarifying task-related information
- entering information onto workplace documents
- checking for conformance to specifications
- identifying duties of the individual within the quality improvement system
- identifying customers' requirements with respect to the operation or quality of the product or service
- reporting where appropriate, defects detected
- carrying out work in accordance with the process improvement procedures
- carrying out work in a manner consistent with the improvement of customer/supplier relationships
- performing numerical operations, geometry and calculations/formulae within the scope of this unit

Required knowledge

Look for evidence that confirms knowledge of:

- quality system terminology and concepts, e.g.
  - quality assurance - planning to meet customers' requirements
  - quality control - checks and procedures to ensure customer requirements are met
  - quality inspection - inspecting and testing products and services
  - total quality control - a company-wide approach that combines both quality assurance and quality control so that the customer is always satisfied
- commonly accepted meaning/s of the terms quality and quality system
- the reasons for following the requirements of the quality improvement system
- strategies and approaches for working within a quality system
- procedures to be followed in undertaking the work
- specifications to which the individual's work is to comply
- reasons for ensuring work conforms to specification
- benefits of good quality:

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REQUIRED SKILLS AND KNOWLEDGE
• quality products • reduced costs • customer confidence, satisfaction and loyalty • good reputation • job satisfaction • solving problems • increased competitiveness • keeping up with technology • costs and consequences of poor quality e.g. • lost customers • accidents • wastage • lost time • low morale • conflict • procedures for reporting defects • examples of common defects • quality improvement procedures • four steps of the quality cycle: plan, do, check, act • reasons for following process improvement procedures • examples of ways in which customer/supplier relationships can be improved • benefits of good customer/supplier relationship • hazards and control measures associated with applying quality procedures, including housekeeping • safe work practices and procedures

Evidence Guide

EVIDENCE GUIDE	
The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.	
Overview of assessment	A person who demonstrates competency in this unit must be able to apply quality systems.
Critical aspects for assessment and	Assessors must be satisfied that the candidate can

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EVIDENCE GUIDE	
evidence required to demonstrate competency in this unit	competently and consistently perform all elements of the unit as specified by the criteria, including required knowledge, and be capable of applying the competency in new and different situations and contexts.
Context of and specific resources for assessment	This unit may be assessed on the job, off the job or a combination of both on and off the job. Where assessment occurs off the job, that is the candidate is not in productive work, then an appropriate simulation must be used where the range of conditions reflects realistic workplace situations. The competencies covered by this unit would be demonstrated by an individual working alone or as part of a team. The assessment environment should not disadvantage the candidate. This unit could be assessed in conjunction with any other units addressing the safety, quality, communication, materials handling, recording and reporting associated with applying quality systems or other units requiring the exercise of the skills and knowledge covered by this unit.
Method of assessment	Assessors should gather a range of evidence that is valid, sufficient, current and authentic. Evidence can be gathered through a variety of ways including direct observation, supervisor's reports, project work, samples and questioning. Questioning should not require language, literacy and numeracy skills beyond those required in this unit. The candidate must have access to all tools, equipment, materials and documentation required. The candidate must be permitted to refer to any relevant workplace procedures, product and manufacturing specifications, codes, standards, manuals and reference materials.
Guidance information for assessment	

Range Statement

RANGE STATEMENT
The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised

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RANGE STATEMENT	
wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.	
Quality improvement system	A system comprising some or all of the following elements: • quality assurance • quality control • quality inspection • quality improvement • total quality control
Customer	The next person or organisation receiving the production or service

Unit Sector(s)

Unit sector	

Co-requisite units

Co-requisite units		

Competency field

Competency field	Quality

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MEM15003B Use improvement processes in team activities

Modification History

Not Applicable

Unit Descriptor

Unit descriptor	This unit covers identifying improvements and/or solving problems, implementing/monitoring the implementation of an improvement strategy, and evaluating the improvement.

Application of the Unit

Application of the unit	This unit applies to quality circle participation using problem solving techniques including flow charts, cause and effect diagrams, Pareto charts, histograms, run charts and graphs, control charts, scattergrams etc. as required. **Band**: **A** **Unit Weight**: **4**

Licensing/Regulatory Information

Not Applicable

Pre-Requisites

Prerequisite units		
Path 1	MEM16007A	Work with others in a manufacturing, engineering or related environment

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Employability Skills Information

Employability skills	This unit contains employability skills.

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Identify areas for improvement and/or solve problems	1.1. Participation in team is used to select improvement tools and methods appropriate to the situation. 1.2. Teamwork is used to process improvement tools to identify improvements and/or solve problems.
2. Implement improvement strategy	2.1. Teamwork is used to implement improvement strategies as required in accordance with standard operating procedures. 2.2. In conjunction with work team, further action is recommended as required using standard operating procedures.
3. Monitor implementation of improvement	3.1. Performance is monitored for change, utilising feedback data.
4. Evaluate improvement	4.1. Analytical tools are used to evaluate improvement as required. 4.2. In conjunction with work team, further action is recommended where required using standard operating procedures.

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Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

Look for evidence that confirms skills in:

- participating and communicating in a team setting
- identifying improvements and/or solving problems in a team setting
- implementing improvement strategies in a team setting
- recommending further action in accordance with standard operating procedures
- collecting and collating feedback data
- evaluating the improvement strategy implemented
- reading, interpreting information on written job instructions, specifications, charts, lists, drawings and other applicable reference documents
- planning and sequencing tasks
- checking and clarifying information
- entering information onto workplace documents
- following verbal instructions
- orally reporting routine information

Required knowledge

Look for evidence that confirms knowledge of:

- roles and functions of self and team members
- team discussion and problem solving processes
- improvement tools and methods and their application
- procedures for using process improvement tools in the team environment
- improvement strategies
- procedures for implementing the improvement strategies
- the individual's role in implementing improvement strategies
- procedures for initiating further action
- the procedures for collecting and collating improvement feedback data
- the analytical tools and processes to evaluate the improvement strategy
- safe workplace practices

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Evidence Guide

EVIDENCE GUIDE	
The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.	
Overview of assessment	A person who demonstrates competency in this unit must be able to use improvement processes in a team environment. Competency in this unit cannot be claimed until all prerequisites have been satisfied.
Critical aspects for assessment and evidence required to demonstrate competency in this unit	Assessors must be satisfied that the candidate can competently and consistently perform all elements of the unit as specified by the criteria, including required knowledge, and be capable of applying the competency in new and different situations and contexts.
Context of and specific resources for assessment	This unit may be assessed on the job, off the job or a combination of both. Where assessment occurs off the job, i.e. the candidate is not in productive work, then an appropriate simulation must be used where the range of conditions reflects realistic workplace situations. The competencies would be demonstrated by an individual working alone or as part of a team. The assessment environment should not disadvantage the candidate. This unit could be assessed in conjunction with any other units addressing the safety, quality, communication, materials handling, recording and reporting associated with using improvement processes in team activities or other units requiring the exercise of the skills and knowledge covered by this unit.
Method of assessment	Assessors should gather a range of evidence that is valid, sufficient, current and authentic. Evidence can be gathered through a variety of ways including direct observation, supervisor's reports, project work, samples and questioning. Questioning should not require language, literacy and numeracy skills beyond those required in this unit of. The candidate must have access to all tools, equipment, materials and documentation required. The candidate must be permitted to refer to any relevant workplace procedures, product and manufacturing specifications, codes, standards, manuals and reference materials.
Guidance information for	

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EVIDENCE GUIDE	
assessment	

Range Statement

RANGE STATEMENT	
The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.	
Improvement tools and methods	Flow charts, cause and effect diagrams, Pareto charts, histograms, run charts and graphs, control charts, scattergrams etc.
Improvement strategies	PDCA (Plan, Do, Check, Act) procedures, Six Sigma techniques, Root Cause Analysis, etc.

Unit Sector(s)

Unit sector	

Co-requisite units

Co-requisite units		

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Competency field

Competency field	Quality

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MEM15004B Perform inspection

Modification History

Not Applicable

Unit Descriptor

Unit descriptor	This unit covers inspecting products, keeping records and providing feedback on the conformance of product to specifications.

Application of the Unit

Application of the unit	This unit applies to basic inspection of completed or partly completed products produced by others. Inspection is carried out according to a site quality plan or specifications; it applies to a range of manufacturing enterprises; and requires application of a range of measuring equipment/devices/tools. Location and frequency of checks/tests and measurements are undertaken to standard operating procedures. In general, verification should be made as close as possible to the point of production of the feature or characteristic. Inspection may involve 'first piece inspection', fixed interval, sample etc. Depending on the inspection process, other technical units may need to be accessed, for example, appropriate measurement units. This unit is not intended to be applied to maintenance personnel carrying out their day-to-day activities, for example, fault finding, remedial and checking activities. These skills are covered by other units such as Unit MEM18006C (Repair and fit engineering components). This unit should not be selected for the purposes of non destructive testing, where Unit MEM24002B (Perform penetrant testing), Unit MEM24004B (Perform magnetic particle testing), Unit MEM24006B (Perform eddy current testing), Unit MEM24008B (Perform ultrasonic testing) or Unit MEM24010B (Perform radiographic testing) have already been selected.

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	Band: **A** **Unit Weight**: **2**

Licensing/Regulatory Information

Not Applicable

Pre-Requisites

Prerequisite units		

Employability Skills Information

Employability skills	This unit contains employability skills.

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.

Elements and Performance Criteria

ELEMENT	**PERFORMANCE CRITERIA**

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ELEMENT	PERFORMANCE CRITERIA
1. Inspect products	1.1. Products are tested for conformance to specifications in accordance with standard operating procedures.
2. Keep records	2.1. Test status identification is made on conforming and non-conforming products and records are accurately kept using standard operating procedures.
3. Provide feedback	3.1. Products are tested/inspected/measured after rework or repair. 3.2. Deficiencies or deviations are reported according to standard operating procedures.

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

Look for evidence that confirms skills in:

- reading, interpreting and following information on written job instructions, standard operating procedures and other applicable reference documents
- testing products for conformance to specifications in accordance with job instructions
- testing reworked/repaired products for conformance to specification, in accordance with job instructions
- entering routine and familiar information onto proformas and standard workplace forms

Required knowledge

Look for evidence that confirms knowledge of:

- the procedures as defined by job instructions to be used to check conformance to specifications
- the data to be recorded and the frequency of recording required
- the consequences of not keeping accurate records
- non-conformances of given products that can be removed by rework/repair in accordance with job instructions
- hazards and control measures associated with performing basic inspection activities
- use and application of personal protective equipment
- safe work practices and procedures

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Evidence Guide

EVIDENCE GUIDE	
The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.	
Overview of assessment	A person who demonstrates competency in this unit must be able to perform inspection (basic).
Critical aspects for assessment and evidence required to demonstrate competency in this unit	Assessors must be satisfied that the candidate can competently and consistently perform all elements of the unit as specified by the criteria, including required knowledge, and be capable of applying the competency in new and different situations and contexts.
Context of and specific resources for assessment	This unit may be assessed on the job, off the job or a combination of both on and off the job. Where assessment occurs off the job, that is the candidate is not in productive work, then an appropriate simulation must be used where the range of conditions reflects realistic workplace situations. The competencies covered by this unit would be demonstrated by an individual working alone or as part of a team. The assessment environment should not disadvantage the candidate. This unit could be assessed in conjunction with any other units addressing the safety, quality, communication, materials handling, recording and reporting associated with performing inspection (basic) or other units requiring the exercise of the skills and knowledge covered by this unit.
Method of assessment	Assessors should gather a range of evidence that is valid, sufficient, current and authentic. Evidence can be gathered through a variety of ways including direct observation, supervisor's reports, project work, samples and questioning. Questioning techniques should not require language, literacy and numeracy skills beyond those required in this unit of competency. The candidate must have access to all tools, equipment, materials and documentation required. The candidate must be permitted to refer to any relevant workplace procedures, product and manufacturing specifications, codes,

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EVIDENCE GUIDE	
	standards, manuals and reference materials.
Guidance information for assessment	

Range Statement

RANGE STATEMENT	
The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.	
Tested for conformance to specifications	Visual inspection, physical measurements, chemical tests, checks against patterns, templates and guides etc.

Unit Sector(s)

Unit sector	

Co-requisite units

Co-requisite units		

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Competency field

Competency field	Quality

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MEM15005B Select and control inspection processes and procedures

Modification History

Not Applicable

Unit Descriptor

Unit descriptor	This unit covers selecting inspection and test procedures, and controlling the inspection/test environment and equipment.

Application of the Unit

Application of the unit	The unit applies to a range of manufacturing enterprises where inspection involves working autonomously and taking responsibility for overseeing inspection process and environment. This person would use a wide range of equipment/instruments and take responsibility for the reliability of inspection results to ensure conformance to specifications. This unit is not intended to be applied to maintenance personnel carrying out their day-to-day activities, for example, fault finding, remedial and checking activities. These skills are covered by other units, such as Unit MEM18006C (Repair and fit engineering components) **Band**: **A** **Unit Weight**: **4**

Licensing/Regulatory Information

Not Applicable

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Pre-Requisites

Prerequisite units		
Path 1	MEM15004B	Perform inspection

Employability Skills Information

Employability skills	This unit contains employability skills.

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.

Elements and Performance Criteria

ELEMENT	**PERFORMANCE CRITERIA**
1. Select inspection/test procedures	1.1. Appropriate methods of inspection are selected and implemented. 1.2. Inspection/test procedures are monitored to ensure desired outcomes.
2. Control inspection/test environment and equipment	2.1. Environmental conditions are monitored to ensure reliability of tests and results. 2.2. Equipment/instruments are checked for correct calibration. 2.3. Calibration of equipment/instruments is initiated or undertaken against appropriate standard as required. 2.4. Calibration records are maintained to standard operating procedure.

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ELEMENT	PERFORMANCE CRITERIA
	2.5. If equipment/instruments are found to be out of calibration, validity of previous results is checked and reported according to standard operating procedures.

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE
This section describes the skills and knowledge required for this unit.
Required skills
Look for evidence that confirms skills in: • reading, interpreting and following information on standard operating procedures and other applicable reference documents • checking and clarifying task-related information • entering and maintaining information onto proformas and standard workplace forms and records • checking for conformance to specifications • using measurement equipment within the scope of this unit • measuring components to specified tolerances • implementing inspection method for the product/ process • monitoring inspection/test procedures to ensure desired outcomes are achieved • monitoring environmental conditions • checking calibration of measuring equipment • initiating calibration of measuring equipment • calibrating measuring equipment against the appropriate reference standard • detecting and reporting out of calibration equipment • applying units of measurement and numerical operations/calculations within the scope of this unit
Required knowledge
Look for evidence that confirms knowledge of: • a range of inspection methods and their application • the appropriate inspection method for the process/product • procedures for implementing inspection methods • the desired/target outcomes of the inspection/test procedures • reasons for discrepancies/trends • procedures for monitoring inspection/test procedures

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REQUIRED SKILLS AND KNOWLEDGE
• the effects of environmental conditions on test equipment and the results • procedures for monitoring environmental conditions • the acceptable range of variations to environmental conditions • the correct operation of the measuring equipment • the specifications of the measuring equipment • procedures for checking the calibration of the measuring equipment • appropriate techniques, tools and equipment to measure components • units of measurement and numerical operations/calculations within the scope of this unit • codes, standards, legislative or regulatory requirements applicable to the measuring equipment and/or calibration • procedures for initiating the calibration of measuring equipment • the physical reference standard against which the measuring equipment is to be calibrated • procedures for calibrating measuring instruments • tools and equipment required to calibrate measuring equipment • procedures for recording calibration details • the reasons for keeping calibration records • the procedures to be followed when measuring equipment is found to be out of calibration • the reasons for checking results from out of calibration measuring equipment • procedures for reporting out of calibration measuring equipment • hazards and control measures associated with inspection, including housekeeping • use and application of personal protective equipment • safe work practices and procedures

Evidence Guide

EVIDENCE GUIDE	
The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.	
Overview of assessment	A person who demonstrates competency in this unit must be able to perform inspection (advanced). Competency in this unit cannot be claimed until all prerequisites have been satisfied.
Critical aspects for assessment and	Assessors must be satisfied that the candidate can

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EVIDENCE GUIDE	
evidence required to demonstrate competency in this unit	competently and consistently perform all elements of the unit as specified by the criteria, including required knowledge, and be capable of applying the competency in new and different situations and contexts.
Context of and specific resources for assessment	This unit may be assessed on the job, off the job or a combination of both on and off the job. Where assessment occurs off the job, that is the candidate is not in productive work, then an appropriate simulation must be used where the range of conditions reflects realistic workplace situations. The competencies covered by this unit would be demonstrated by an individual working alone or as part of a team. The assessment environment should not disadvantage the candidate. This unit could be assessed in conjunction with any other units addressing the safety, quality, communication, materials handling, recording and reporting associated with performing inspection (advanced) or other units requiring the exercise of the skills and knowledge covered by this unit.
Method of assessment	Assessors should gather a range of evidence that is valid, sufficient, current and authentic. Evidence can be gathered through a variety of ways including direct observation, supervisor's reports, project work, samples and questioning. Questioning techniques should not require language, literacy and numeracy skills beyond those required in this unit of competency. The candidate must have access to all tools, equipment, materials and documentation required. The candidate must be permitted to refer to any relevant workplace procedures, product and manufacturing specifications, codes, standards, manuals and reference materials.
Guidance information for assessment	

Range Statement

RANGE STATEMENT
The range statement relates to the unit of competency as a whole. It allows for different

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RANGE STATEMENT	
work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.	

Unit Sector(s)

Unit sector	

Co-requisite units

Co-requisite units		

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Competency field

Competency field	Quality

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MEM15024A Apply quality procedures

Modification History

Not Applicable

Unit Descriptor

Unit descriptor	This unit covers applying established quality procedures to an employee's own work within a manufacturing, engineering or related environment.

Application of the Unit

Application of the unit	This unit covers essential skill and knowledge that underpins all units within the Metal and Engineering Training Package. This competency is applied to an individual's own work. It includes concepts of meeting customer needs to achieve outcomes that are 'fit for purpose'. This includes following quality procedures to conform to specifications and requirements. **Band**: **A** **Unit Weight**: There is no unit weighting for this unit.

Licensing/Regulatory Information

Not Applicable

Pre-Requisites

Prerequisite units		

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Prerequisite units		

Employability Skills Information

Employability skills	This unit contains employability skills.

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.

Elements and Performance Criteria

ELEMENT	**PERFORMANCE CRITERIA**
1. Take responsibility for own quality	1.1. Concept of supplying product or service to meet the customer requirements (internal and external) is understood and applied. 1.2. Responsibility is taken for quality of own work.
2. Apply standard procedures of workplace quality to own job	2.1. Quality system procedures are followed. 2.2. Conformance to specifications is ensured.

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

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REQUIRED SKILLS AND KNOWLEDGE
This section describes the skills and knowledge required for this unit.
Required skills
Look for evidence that confirms skills in: • identifying and communicating instances of non-compliance to work specifications • following quality procedures including work instructions • conforming to product and process specifications • checking and clarifying task-related information
Required knowledge
Look for evidence that confirms knowledge of: • concepts of quality and the benefits of using specifications and standard operating procedures • quality procedures applying to own work • standard operating procedures • safe work practices and procedures

Evidence Guide

EVIDENCE GUIDE	
The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.	
Overview of assessment	A person who demonstrates competency in this unit must be able to apply quality procedures.
Critical aspects for assessment and evidence required to demonstrate competency in this unit	Assessors must be satisfied that the candidate can competently and consistently perform all elements of the unit as specified by the criteria, including required knowledge, and be capable of applying the competency in new and different situations and contexts.
Context of and specific resources for assessment	This unit may be assessed on the job, off the job or a combination of both on and off the job. Where assessment occurs off the job, that is the candidate is not in productive work, then an appropriate simulation must be used where the range of conditions reflects realistic

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EVIDENCE GUIDE	
	workplace situations. The competencies covered by this unit would be demonstrated by an individual working alone or as part of a team. The assessment environment should not disadvantage the candidate. This unit could be assessed in conjunction with any other units addressing the safety, quality, communication, materials handling, recording and reporting associated with applying quality procedures or other units requiring the exercise of the skills and knowledge covered by this unit.
Method of assessment	Assessors should gather a range of evidence that is valid, sufficient, current and authentic. Evidence can be gathered through a variety of ways including direct observation, supervisor's reports, project work, samples and questioning. Questioning techniques should not require language, literacy and numeracy skills beyond those required in this unit of competency. The candidate must have access to all tools, equipment, materials and documentation required. The candidate must be permitted to refer to any relevant workplace procedures, product and manufacturing specifications, codes, standards, manuals and reference materials.
Guidance information for assessment	

Range Statement

RANGE STATEMENT	
The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.	
Quality	Consistently meeting customer requirements

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Unit Sector(s)

Unit sector	

Co-requisite units

Co-requisite units		

Competency field

Competency field	Quality

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MEM16002C Conduct formal interviews and negotiations

Modification History

Not Applicable

Unit Descriptor

Unit descriptor	This unit covers planning and conducting interviews, participating in interviews and taking part in negotiations.

Application of the Unit

Application of the unit	This unit applies to effective communication in more formal on-site or small group situations where ideas are defined and specific outcomes are sought. The topics covered are often formally identified and records may be kept. Interviews could include job recruitment and progression, performance reviews, grievance, etc. This unit does not cover the skills needed for participation in formal group processes such as meetings which are covered by Unit MEM16001B (Give formal presentations and take part in meetings). For interviews associated with training and assessment, refer to the appropriate units. **Band**: **A** **Unit Weight**: **4**

Licensing/Regulatory Information

Not Applicable

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Pre-Requisites

Prerequisite units	

Employability Skills Information

Employability skills	This unit contains employability skills.

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Plan and conduct interviews	1.1. Interview is planned and initiated to achieve a specified purpose. 1.2. Suitable questions appropriate to the purpose are used. 1.3. Discretion and confidentiality are exercised where appropriate.
2. Participate in interviews	2.1. Appropriate preparation is undertaken. 2.2. Active listening skills are employed. 2.3. Self-presentation is applied appropriate to the purpose. 2.4. Questions are asked where appropriate. 2.5. Follow-up activities are clarified and reported in accordance with standard operating procedure.
3. Take part in negotiations	3.1. Language appropriate to the other party is used.

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ELEMENT	PERFORMANCE CRITERIA
	3.2. Own and others' needs/wants are stated and clarified. 3.3. The views of fellow employees, including own group or team, are represented to others. 3.4. The appropriate communication medium is selected. 3.5. Follow-up activities are clarified and reported in accordance with standard operating procedures.

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

Look for evidence that confirms skills in:

- planning and formatting interviews
- developing open and closed interview questions to gain required information
- building rapport
- maintaining discretion and confidentiality
- preparing for interviews
- using active listening skills
- identifying interview goals
- identifying selection/assessment criteria
- clarifying follow-up activities
- reporting follow-up activities
- using appropriate language to the other party(s)
- clarifying needs/wants of others
- representing the views of fellow team or group members during negotiations
- selecting appropriate communication media during the negotiations

Required knowledge

Look for evidence that confirms knowledge of:

- the purpose of the interview
- the assessment criteria for the interview
- the procedures to be followed in planning and conducting the interview
- the detail/information to be obtained from the interview
- questions appropriate to the detail/information to be obtained

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REQUIRED SKILLS AND KNOWLEDGE
• active listening techniques that can be applied in interview situations • the effect(s) of the individual's presentation during the interview upon the interview • the effect(s) of the timing of questions on the interviewee • the need to follow-up issues raised during the interview and negotiations • the procedures for reporting the outcomes of follow-up activities • the parties to be involved in the negotiations • the reasons for using appropriate language • the reasons for maintaining confidentiality • the reasons for clarifying the needs/wants of others • the needs/wants of the individual • the views of fellow team or group members • a range of communication media • the appropriate communication medium • safe workplace practices

Evidence Guide

EVIDENCE GUIDE	
The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.	
Overview of assessment	A person who demonstrates competency in this unit must be able to conduct formal interviews and negotiations.
Critical aspects for assessment and evidence required to demonstrate competency in this unit	Assessors must be satisfied that the candidate can competently and consistently perform all elements of the unit as specified by the criteria, including required knowledge, and be capable of applying the competency in new and different situations and contexts.
Context of and specific resources for assessment	This unit may be assessed on the job, off the job or a combination of both on and off the job. Where assessment occurs off the job, that is the candidate is not in productive work, then an appropriate simulation must be used where the range of conditions reflects realistic workplace situations. The competencies covered by this unit would be demonstrated by an individual working alone or as part of a team. The assessment environment

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EVIDENCE GUIDE	
	should not disadvantage the candidate. This unit could be assessed in conjunction with any other units addressing the safety, quality, communication, materials handling, recording and reporting associated with conducting formal interviews and negotiations or other units requiring the exercise of the skills and knowledge covered by this unit.
Method of assessment	Assessors should gather a range of evidence that is valid, sufficient, current and authentic. Evidence can be gathered through a variety of ways including direct observation, supervisor's reports, project work, samples and questioning. Questioning techniques should not require language, literacy and numeracy skills beyond those required in this unit of competency. The candidate must have access to all tools, equipment, materials and documentation required. The candidate must be permitted to refer to any relevant workplace procedures, product and manufacturing specifications, codes, standards, manuals and reference materials.
Guidance information for assessment	

Range Statement

RANGE STATEMENT	
The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.	
Preparation	• Identifying and inviting co-interviewers • Planning interview • Preparation of interview room • Accessing required documents and materials • Introductions and explanations
Active listening skills	• Appropriate body language

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RANGE STATEMENT	
	• Acknowledgements • Clarification questions • Appropriate responses
Communication medium	• Face-to-face meeting • Telephone • Email • Written • Advocacy

Unit Sector(s)

Unit sector	

Co-requisite units

Co-requisite units		

Competency field

Competency field	Communication

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MEM16003B Provide advanced customer service

Modification History

Not Applicable

Unit Descriptor

Unit descriptor	This unit covers identifying a customer's relationship to the enterprise and the customer's requirements, acting on the customer's requirements, and promoting better customer service.

Application of the Unit

Application of the unit	This unit applies to the provision of comprehensive assistance to customers across a range of products and services. Situations covered would be beyond simple sales or enquiries and could include the taking of one-off or special orders requiring detailed descriptions, the handling of complaints referred for more detailed assistance than the initial point of contact, work as a designated liaison officer etc. Customers can be internal or external. Customer liaison can be undertaken through telephone, written, email or face-to-face contact. Typical applications of this unit would be found in warehouses, service and design departments. **Band**: **B** **Unit Weight**: **2**

Licensing/Regulatory Information

Not Applicable

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Pre-Requisites

Prerequisite units	

Employability Skills Information

Employability skills	This unit contains employability skills.

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.

Elements and Performance Criteria

ELEMENT	**PERFORMANCE CRITERIA**
1. Identify customer relationship to enterprise	1.1. For repeat customers, formal customer identification details are obtained and checked, for example, by order, requisition or account number according to standard operating procedures. 1.2. Customer is identified as a new or repeat customer.
2. Identify customer requirements	2.1. Customer requirements are identified from order or other verbal or written communication. 2.2. The degree to which customer requirements can be met is clearly communicated including details such as price, delivery date, quantity or quality. 2.3. Alternatives are proposed for any inability to completely satisfy customer requirements.

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ELEMENT	PERFORMANCE CRITERIA
3. Action customer requirements	3.1. Appropriate action to implement customer requirements is undertaken, for example by filling or entering of order, corrective action to resolve complaints, or repair or service to customer equipment. 3.2. Customer requirements not able to be met immediately are recorded, and follow-up checks are undertaken according to standard operating procedures.
4. Promote better customer service	4.1. Methods of improving customer service are identified and reported.

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

Look for evidence that confirms skills in:

- reading, interpreting and following information on written job instructions, specifications and other applicable reference documents
- obtaining and checking customer identification details
- establishing rapport with the customer
- dealing with difficult or unsatisfied customers
- checking and clarifying information
- identifying and communicating the degree to which customer requirements can be met
- identifying alternative products and/or services
- taking appropriate action to meet customer requirements
- recording customer requirements including those not able to be immediately met
- following up unmet customer requirements
- reporting/recommending methods of improving customer service
- entering routine and familiar information onto proformas and standard workplace forms

Required knowledge

Look for evidence that confirms knowledge of:

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REQUIRED SKILLS AND KNOWLEDGE
• the procedures for identifying customers and defining customer relationships • service provision procedures for new/repeat customers • procedures for identifying customer requirements • the price of the required product or service • the quantities of the product available • the quality and characteristics of the product or service • the delivery date/requirements of the product or service • the procedures for informing the customer of the degree to which the customer's requirements can be met • the reasons for informing the customer promptly of the ability/inability to meet the customer's requirements • alternative products and/or services that may meet the customer's requirements • the procedures for actioning customer orders • the procedures for recording and managing customer complaints • the procedures for initiating repairs and/or service to customer equipment • the procedures for managing organisational errors in service provision • principles and practices of effective customer service • record keeping requirements of customer service interactions and transactions • the procedures for following up on unmet customer requirements • the procedures for reporting/recommending improvement to customer service • safe work practices and procedures

Evidence Guide

EVIDENCE GUIDE	
The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.	
Overview of assessment	A person who demonstrates competency in this unit must be able to provide advanced customer service.
Critical aspects for assessment and evidence required to demonstrate competency in this unit	Assessors must be satisfied that the candidate can competently and consistently perform all elements of the unit as specified by the criteria, including required knowledge, and be capable of applying the competency in new and different situations and contexts.
Context of and specific resources for	This unit may be assessed on the job, off the job or a

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EVIDENCE GUIDE	
assessment	combination of both on and off the job. Where assessment occurs off the job, that is the candidate is not in productive work, then an appropriate simulation must be used where the range of conditions reflects realistic workplace situations. The competencies covered by this unit would be demonstrated by an individual working alone or as part of a team. The assessment environment should not disadvantage the candidate. This unit could be assessed in conjunction with any other units addressing the safety, quality, communication, materials handling, recording and reporting associated with providing advanced customer service or other units requiring the exercise of the skills and knowledge covered by this unit.
Method of assessment	Assessors should gather a range of evidence that is valid, sufficient, current and authentic. Evidence can be gathered through a variety of ways including direct observation, supervisor's reports, project work, samples and questioning. Questioning techniques should not require language, literacy and numeracy skills beyond those required in this unit of competency. The candidate must have access to all tools, equipment, materials and documentation required. The candidate must be permitted to refer to any relevant workplace procedures, product and manufacturing specifications, codes, standards, manuals and reference materials.
Guidance information for assessment	

Range Statement

RANGE STATEMENT
The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.

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RANGE STATEMENT	
Customer relationship	• Internal or external • Repeat or one-off • New or established • Significance in terms of purchase size, length of association, company status, relationship • Previous history • Special service requirements or conditions • Reciprocal arrangements • Supply chain relationship
Methods of improving customer service	• New documentation • New communication • System improvements • Delivery improvements • Product or service improvements

Unit Sector(s)

Unit sector	

Co-requisite units

Co-requisite units		

Competency field

Competency field	Communication

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MEM16005A Operate as a team member to conduct manufacturing, engineering or related activities

Modification History

Not Applicable

Unit Descriptor

Unit descriptor	This unit covers operating as a member of a team, where operations and outcomes are dependent on the performance of the entire team.

Application of the Unit

Application of the unit	This unit applies to a range of team activities that are carried out within a section of a manufacturing, engineering or a related work environment. Activities are interdependent in nature, with each team member providing a critical component of the output. Effective interaction and collaboration between team members is required in order to achieve team goals. **Band**: **A** **Unit Weight**: **2**

Licensing/Regulatory Information

Not Applicable

Pre-Requisites

Prerequisite units	

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Prerequisite units	

Employability Skills Information

Employability skills	This unit contains employability skills.

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.

Elements and Performance Criteria

ELEMENT	**PERFORMANCE CRITERIA**
1. Identify team goals and processes	1.1. Team goals and requirements are identified. 1.2. Processes in place to assist in meeting team goals are identified. 1.3. Workflow and processes are described. 1.4. Roles and responsibilities of team members are identified. 1.5. Relationships within team and with other work areas are identified.
2. Communicate and cooperate with team members	2.1. Effective interpersonal skills are used to interact with team members and to contribute to activities and objectives. 2.2. Formal and informal forms of communication are used effectively to support team achievement. 2.3. Team members are assisted as required to ensure team achieves goals and requirements.

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ELEMENT	PERFORMANCE CRITERIA
	2.4. Diversity is respected and valued in team functioning. 2.5. Views and opinions of other team members are understood and reflected accurately. 2.6. Workplace terminology is used correctly to assist communication.
3. Work as a team member	3.1. Tasks are performed in accordance with organisational and team requirements, specifications and workplace procedures. 3.2. Agreed reporting lines are followed using standard operating procedures.
4. Solve problems as a team member	4.1. Potential and real problems faced by team are identified. 4.2. Procedures for avoiding and managing problems are identified. 4.3. Problems are solved effectively and in a manner which supports team functioning.

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

Look for evidence that confirms skills in:

- contributing to achievement of team goals
- communicating and cooperating with team members
- coordinating work effort with others
- applying effective interpersonal skills
- reading, interpreting and following information on written job instructions, specifications, standard operating procedures, charts, lists, drawings and other applicable reference documents
- solving problems

Required knowledge

Look for evidence that confirms knowledge of:

- effective interpersonal strategies and skills:

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REQUIRED SKILLS AND KNOWLEDGE
• effective listening • basic speaking skills • use of terminology and jargon • giving and receiving feedback • checking and clarifying task-related information • interpreting instructions • basic conflict resolution • selecting modes and methods of communication • identifying and resolving communication breakdowns and barriers • principles of effective communication • relationships and roles within team and with others • reporting relationships and procedures • own responsibilities with respect to products/services to be provided by team • skills and competencies of the individual and other employees performing interdependent activities • team goals, objectives and task requirements • sources of technical expertise/assistance • appropriate forms of communication • hazards and control measures associated with team activities, including housekeeping • safe work practices and procedures

Evidence Guide

EVIDENCE GUIDE	
The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.	
Overview of assessment	A person who demonstrates competency in this unit must be able to operate in a work-based team environment.
Critical aspects for assessment and evidence required to demonstrate competency in this unit	Assessors must be satisfied that the candidate can competently and consistently perform all elements of the unit as specified by the criteria, including required knowledge, and be capable of applying the competency in new and different situations and contexts.

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EVIDENCE GUIDE	
Context of and specific resources for assessment	This unit may be assessed on the job, off the job or a combination of both on and off the job. Where assessment occurs off the job, that is the candidate is not in productive work, then an appropriate simulation must be used where the range of conditions reflects realistic workplace situations. The competencies covered by this unit would be demonstrated by an individual working alone or as part of a team. The assessment environment should not disadvantage the candidate. This unit could be assessed in conjunction with any other units addressing the safety, quality, communication, materials handling, recording and reporting associated with operating in a work-based team environment or other units requiring the exercise of the skills and knowledge covered by this unit.
Method of assessment	Assessors should gather a range of evidence that is valid, sufficient, current and authentic. Evidence can be gathered through a variety of ways including direct observation, supervisor's reports, project work, samples and questioning. Questioning should not require language, literacy and numeracy skills beyond those required in this unit. The candidate must have access to all tools, equipment, materials and documentation required. The candidate must be permitted to refer to any relevant workplace procedures, product and manufacturing specifications, codes, standards, manuals and reference materials.
Guidance information for assessment	

Range Statement

RANGE STATEMENT
The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and

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RANGE STATEMENT	
regional contexts) may also be included.	
Team goals	Production or manufacturing output, deadlines and timelines, resource use, performance, mistake elimination targets, process improvements, maintenance activity, safety levels
Effective interpersonal skills	Basic listening and speaking skills, use of terminology and jargon, giving and receiving feedback, interpreting instructions, verbal and non-verbal modes and methods of communication, communication breakdowns and barriers, basic principles of effective communication
Formal and informal forms of communication	Meetings, documentation, updates, handover, signage, discussion, explanations, demonstration, electronic
Diversity	Ethnicity, age, gender, demographics, disability
Workplace terminology	Terminology - referring to equipment, processes, workplace areas, staff and procedures - specific to the processes and equipment used in the workplace

Unit Sector(s)

Unit sector	

Co-requisite units

Co-requisite units		

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Competency field

Competency field	Communication

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MEM16006A Organise and communicate information

Modification History

Not Applicable

Unit Descriptor

Unit descriptor	This unit covers accessing, organising and communicating information related to processes or tasks.

Application of the Unit

Application of the unit	This unit applies in manufacturing, engineering or related environments. It may include information related to production, maintenance or associated processes. Information may be drawn from a variety of sources. This unit includes the ability to communicate using common workplace terminology. For access and recording of data requiring system knowledge and judgement, see Unit MEM16008A (Interact with computing technology). **Band**: **A** **Unit Weight**: **2**

Licensing/Regulatory Information

Not Applicable

Pre-Requisites

Prerequisite units	

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Prerequisite units	

Employability Skills Information

Employability skills	This unit contains employability skills.

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.

Elements and Performance Criteria

ELEMENT	**PERFORMANCE CRITERIA**
1. Access information and/or records	1.1. Information requirements of tasks are determined and relevant information is accessed from a range of sources. 1.2. Workplace terminology is correctly recognised.
2. Organise and analyse information	2.1. Information is interpreted and organised in accordance with enterprise and work requirements. 2.2. Information is analysed according to enterprise and work requirements.
3. Communicate organised information using established workplace methods	3.1. Information is communicated using established workplace methods.

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Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE This section describes the skills and knowledge required for this unit.
Required skills
Look for evidence that confirms skills in: • accessing relevant information from a range of sources • recording, where appropriate, the accessed information • recognising and using workplace terms • reading, interpreting and following information in workplace documentation • checking and clarifying information • organising, categorising and sequencing information
Required knowledge
Look for evidence that confirms knowledge of: • types of information • available sources of information • information analysis techniques • methods of categorising and organising information • methods of recording and communicating information

Evidence Guide

EVIDENCE GUIDE	
The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.	
Overview of assessment	A person who demonstrates competency in this unit must be able to organise, analyse and communicate information.
Critical aspects for assessment and evidence required to demonstrate competency in this unit	Assessors must be satisfied that the candidate can competently and consistently perform all elements of the unit as specified by the criteria, including required knowledge, and be capable of applying the competency

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EVIDENCE GUIDE	
	in new and different situations and contexts.
Context of and specific resources for assessment	This unit may be assessed on the job, off the job or a combination of both on and off the job. Where assessment occurs off the job, that is the candidate is not in productive work, then an appropriate simulation must be used where the range of conditions reflects realistic workplace situations. The competencies covered by this unit would be demonstrated by an individual working alone or as part of a team. The assessment environment should not disadvantage the candidate. This unit could be assessed in conjunction with any other units addressing the safety, quality, communication, materials handling, recording and reporting associated with organising, analysing and communicating information or other units requiring the exercise of the skills and knowledge covered by this unit.
Method of assessment	Assessors should gather a range of evidence that is valid, sufficient, current and authentic. Evidence can be gathered through a variety of ways including direct observation, supervisor's reports, project work, samples and questioning. Questioning techniques should not require language, literacy and numeracy skills beyond those required in this unit of competency. The candidate must have access to all tools, equipment, materials and documentation required. The candidate must be permitted to refer to any relevant workplace procedures, product and manufacturing specifications, codes, standards, manuals and reference materials.
Guidance information for assessment	

Range Statement

RANGE STATEMENT
The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work

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RANGE STATEMENT	
situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.	
Range of sources	Job instructions, specifications, standard operating procedures, charts, lists, documents, computer data, drawings, sketches, tables, technical manuals and/or charts and other applicable reference material
Workplace terminology	Terminology - referring to equipment, processes, workplace areas, staff and procedures - specific to the processes and equipment used in the workplace
Analyse	Analysis for this unit involves simple determinations of relevance and implication for the employee's immediate work requirements
Established workplace methods	• Proforma reports • Data entry e.g. bar coding and simple keyboard operations • Verbal • Drawings

Unit Sector(s)

Unit sector	

Co-requisite units

Co-requisite units		

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Competency field

Competency field	Communication

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MEM16007A Work with others in a manufacturing, engineering or related environment

Modification History

Not Applicable

Unit Descriptor

Unit descriptor	This unit covers operating in an interactive work environment. It covers contribution to a group effort in order to plan and carry out work. This includes identification of work roles, communication and cooperation with others.

Application of the Unit

Application of the unit	This unit applies to work-related group activities that typically occur in and between sections or departments of an enterprise. Employees would normally be working together to achieve a common purpose e.g. manufacture of a product, maintenance of plant and equipment. Individuals are not responsible for the overall group effort but would be required to contribute to activities and objectives using their own existing technical competencies. **Band**: **A** **Unit Weight**: **0**

Licensing/Regulatory Information

Not Applicable

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Pre-Requisites

Prerequisite units	

Employability Skills Information

Employability skills	This unit contains employability skills.

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.

Elements and Performance Criteria

ELEMENT	**PERFORMANCE CRITERIA**
1. Identify roles and responsibilities	1.1. Own role and responsibilities are identified. 1.2. Relationships within immediate group and with employees performing related/interdependent activities are identified.
2. Plan activities	2.1. Common goals, objectives and task requirements are identified and clarified with appropriate persons. 2.2. Individual tasks are determined and agreed on according to workplace procedures.
3. Work with others	3.1. Effective interpersonal skills are applied to interact with others and to contribute to activities and objectives. 3.2. Assigned or agreed tasks are performed in

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ELEMENT	PERFORMANCE CRITERIA
	accordance with agreed requirements, specifications and workplace procedures. 3.3. Work progress is reviewed and modified as agreed to complement the work of others. 3.4. Agreed reporting lines are followed using standard operating procedures.

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

Look for evidence that confirms skills in:

- contributing to planning and allocation of work
- performing assigned tasks
- coordinating work effort with others
- following agreed reporting lines
- reading, interpreting and following information on written job instructions, specifications, standard operating procedures, charts, lists, drawings and other applicable reference documents
- applying effective interpersonal skills

Required knowledge

Look for evidence that confirms knowledge of:

- effective interpersonal strategies and skills:
  - effective listening
  - basic speaking skills
  - use of terminology and jargon
  - giving and receiving feedback
  - checking and clarifying task-related information
  - interpreting instructions
  - basic conflict resolution
  - selecting modes and methods of communication
  - identifying and resolving communication breakdowns and barriers
  - principles of effective communication

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REQUIRED SKILLS AND KNOWLEDGE
• relationships and roles within immediate group and with interdependent others • reporting relationships and procedures • own responsibilities with respect to products/services to be provided • skills and competencies of the individual and other employees performing interdependent activities • common goals, objectives and task requirements • sources of technical expertise/assistance • appropriate forms of communication • hazards and control measures associated with workplace activities, including housekeeping • safe work practices and procedures

Evidence Guide

EVIDENCE GUIDE	
The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.	
Overview of assessment	A person who demonstrates competency in this unit must be able to operate in a work-based team environment.
Critical aspects for assessment and evidence required to demonstrate competency in this unit	Assessors must be satisfied that the candidate can competently and consistently perform all elements of the unit as specified by the criteria, including required knowledge, and be capable of applying the competency in new and different situations and contexts.
Context of and specific resources for assessment	This unit may be assessed on the job, off the job or a combination of both on and off the job. Where assessment occurs off the job, that is the candidate is not in productive work, then an appropriate simulation must be used where the range of conditions reflects realistic workplace situations. The competencies covered by this unit would be demonstrated by an individual working alone or as part of a team. The assessment environment should not disadvantage the candidate. This unit could be assessed in conjunction with any other units addressing the safety, quality, communication, materials handling, recording and reporting associated

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EVIDENCE GUIDE	
	with operating in a work-based team environment or other units requiring the exercise of the skills and knowledge covered by this unit.
Method of assessment	Assessors should gather a range of evidence that is valid, sufficient, current and authentic. Evidence can be gathered through a variety of ways including direct observation, supervisor's reports, project work, samples and questioning. Questioning techniques should not require language, literacy and numeracy skills beyond those required in this unit of competency. The candidate must have access to all tools, equipment, materials and documentation required. The candidate must be permitted to refer to any relevant workplace procedures, product and manufacturing specifications, codes, standards, manuals and reference materials.
Guidance information for assessment	

Range Statement

RANGE STATEMENT	
The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.	
Effective interpersonal skills	Basic listening and speaking skills, use of terminology and jargon, giving and receiving feedback, interpreting instructions, verbal and non-verbal modes and methods of communication, communication breakdowns and barriers, basic principles of effective communication

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Unit Sector(s)

Unit sector	

Co-requisite units

Co-requisite units		

Competency field

Competency field	Communication

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MEM16008A Interact with computing technology

Modification History

Not Applicable

Unit Descriptor

Unit descriptor	This unit covers accessing, inputting and storing information used in manufacturing, engineering or related environments, using computing technology.

Application of the Unit

Application of the unit	This unit applies in manufacturing, engineering or related environments. It involves identifying the type and source of information required, and using the technology to access, input and store information. The equipment may include computers and a range of other equipment based on computing technology. **Band**: **A** **Unit Weight**: **2**

Licensing/Regulatory Information

Not Applicable

Pre-Requisites

Prerequisite units	

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Employability Skills Information

Employability skills	This unit contains employability skills.

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Determine job requirements	1.1. Nature and scope of task requirement are identified. 1.2. Information/data required to be accessed, input or stored is identified. 1.3. Source of information/data is identified.
2. Access information/data	2.1. Access procedures are followed. 2.2. Technology is navigated to find the required information/data. 2.3. Relevant software application menus, functions and commands are used to locate required information/data. 2.4. Information/data is retrieved using organisational procedures. 2.5. Information/data is checked for relevance to job requirements.
3. Input information/data	3.1. Relevant software menus, functions and commands are used to manipulate information/data. 3.2. Information/data is entered, changed, or removed as required.
4. Store	4.1. Data/files are saved following standard procedures

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ELEMENT	PERFORMANCE CRITERIA
information/data	prior to exiting the application. 4.2. Data output is produced as required. 4.3. Procedures for shutting down/logging off/exiting computing technology are followed.
5. Access assistance as required	5.1. Appropriate personnel are identified and consulted as required. 5.2. Manuals, online help and other reference materials are identified and used as required.

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE
This section describes the skills and knowledge required for this unit.
Required skills
Look for evidence that confirms skills in: • ability to enter or retrieve data using appropriate software applications • reading, interpreting and following information on written job instructions, specifications, standard operating procedures, charts, lists, drawings and other applicable reference documents • planning and sequencing operations • checking and clarifying task-related information • using numerical operations within the scope of this unit
Required knowledge
Look for evidence that confirms knowledge of: • functions and capabilities of various types of computing technology used in the workplace • functions of software applications • hazards and control measures associated with using computing technology, including housekeeping • safe work practices and procedures

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Evidence Guide

EVIDENCE GUIDE	
The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.	
Overview of assessment	A person who demonstrates competency in this unit must be able to interact with computing technology to achieve workplace outcomes.
Critical aspects for assessment and evidence required to demonstrate competency in this unit	Assessors must be satisfied that the candidate can competently and consistently perform all elements of the unit as specified by the criteria, including required knowledge, and be capable of applying the competency in new and different situations and contexts.
Context of and specific resources for assessment	This unit may be assessed on the job, off the job or a combination of both on and off the job. Where assessment occurs off the job, that is the candidate is not in productive work, then an appropriate simulation must be used where the range of conditions reflects realistic workplace situations. The competencies covered by this unit would be demonstrated by an individual working alone or as part of a team. The assessment environment should not disadvantage the candidate. This unit could be assessed in conjunction with any other units addressing the safety, quality, communication, materials handling, recording and reporting associated with interacting with computing technology or other units requiring the exercise of the skills and knowledge covered by this unit.
Method of assessment	Assessors should gather a range of evidence that is valid, sufficient, current and authentic. Evidence can be gathered through a variety of ways including direct observation, supervisor's reports, project work, samples and questioning. Questioning should not require language, literacy and numeracy skills beyond those required in this unit. The candidate must have access to all tools, equipment, materials and documentation required. The candidate must be permitted to refer to any relevant workplace procedures, product and manufacturing specifications, codes, standards, manuals and reference materials.
Guidance information for	

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EVIDENCE GUIDE	
assessment	

Range Statement

RANGE STATEMENT	
The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.	
Access procedures	Logging on and security procedures, virus checks, start-up routines, application start-up
Technology	Hand held data recording devices, screen based equipment, personal computers, bar coders
Applications	• Word processing spreadsheets and databases • Customised engineering and manufacturing applications • Material Resource Planning (MRP) • Warehousing inventory applications • Predictive reliability and maintenance applications • Production data management applications
Data output	Report, email, chart, graph, printout, data transfer, labels

Unit Sector(s)

Unit sector	

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Co-requisite units

Co-requisite units		

Competency field

Competency field	Communication

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MEM16009A Research and analyse engineering information

Modification History

Not Applicable

Unit Descriptor

Unit descriptor	This unit covers researching and analysing information and preparing the information for dissemination.

Application of the Unit

Application of the unit	In this unit, the employee may be researching and analysing engineering information for dissemination. Materials and documents mentioned are based on relevant knowledge of the employee competency level. **Band**: **B** **Unit Weight**: **2**

Licensing/Regulatory Information

Not Applicable

Pre-Requisites

Prerequisite units		
Path 1	MEM16006A	Organise and communicate information
	MEM16012A	Interpret technical specifications and manuals

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Employability Skills Information

Employability skills	This unit contains employability skills.

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Research information	1.1. Research requirements are identified and clarified with appropriate persons. 1.2. Sources of research data/information are identified and verified for currency and accuracy. 1.3. Information is compiled, recorded and stored using research techniques appropriate to the task requirements. 1.4. Information is sorted for relevance to research and analysis requirements. 1.5. Research is conducted within given timeframe, resource and quality constraints.
2. Analyse information	2.1. Scope, criteria and method for analysis are determined and verified, if necessary, with appropriate persons. 2.2. Information is accurately analysed according to established criteria. 2.3. Analysis is documented in an appropriate format according to workplace requirements.
3. Establish findings and conclusions	3.1. Findings are factual and accurately describe the results of the analysis 3.2. Conclusions are reached that are logical and based on objective analysis of available data.

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ELEMENT	PERFORMANCE CRITERIA
	3.3. Research data, analysis, findings and conclusions are verified, if necessary, with appropriate persons.
4. Summarise and organise technical data	4.1. Information is recorded in suitable form according to workplace requirements. 4.2. Information is summarised and organised for ease of reference, using established communication principles. 4.3. Information is disseminated to others according to workplace procedures.

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

Look for evidence that confirms skills in:

- reading, interpreting and following information on written job instructions, specifications, standard operating procedures, charts, lists, drawings and other applicable reference documents
- questioning
- applying research techniques
- checking and clarifying information
- note-taking
- analysing information and data
- sorting and identifying relevant information/data
- establishing findings and conclusions based on analysis
- summarising and organising information and technical data
- preparing materials for dissemination to others
- planning and sequencing operations

Required knowledge

Look for evidence that confirms knowledge of:

- basic principles and methods of research and analysis
- effective communication principles with respect to research, analysis and organisation of technical data
- sources of research data/information

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REQUIRED SKILLS AND KNOWLEDGE
• use of internal/external databases • relevant personnel for consultation • relevant information/data • effect of variations in the information/data on the conclusions reached • safe work practices and procedures

Evidence Guide

EVIDENCE GUIDE	
The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.	
Overview of assessment	A person who demonstrates competency in this unit must be able to research and analyse engineering information. Competency in this unit cannot be claimed until all prerequisites have been satisfied.
Critical aspects for assessment and evidence required to demonstrate competency in this unit	Assessors must be satisfied that the candidate can competently and consistently perform all elements of the unit as specified by the criteria, including required knowledge, and be capable of applying the competency in new and different situations and contexts.
Context of and specific resources for assessment	This unit may be assessed on the job, off the job or a combination of both on and off the job. Where assessment occurs off the job, that is the candidate is not in productive work, then an appropriate simulation must be used where the range of conditions reflects realistic workplace situations. The competencies covered by this unit would be demonstrated by an individual working alone or as part of a team. The assessment environment should not disadvantage the candidate. This unit could be assessed in conjunction with any other units addressing the safety, quality, communication, materials handling, recording and reporting associated with researching and analysing engineering information or other units requiring the exercise of the skills and knowledge covered by this unit.

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EVIDENCE GUIDE	
Method of assessment	Assessors should gather a range of evidence that is valid, sufficient, current and authentic. Evidence can be gathered through a variety of ways including direct observation, supervisor's reports, project work, samples and questioning. Questioning techniques should not require language, literacy and numeracy skills beyond those required in this unit of competency. The candidate must have access to all tools, equipment, materials and documentation required. The candidate must be permitted to refer to any relevant workplace procedures, product and manufacturing specifications, codes, standards, manuals and reference materials.
Guidance information for assessment	

Range Statement

RANGE STATEMENT	
The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.	
Research requirements	Purpose, expected outcomes, scope and nature, timeframe, required resources
Sources of research data/information	• Surveys • Interview • Observation • Test results • Data records • Reference books and journals • Technical manuals • Job histories • Internal/external databases
Research techniques	• Surveying/scanning • Skimming

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RANGE STATEMENT	
	• Questioning • Note-taking • Summarising • Relationship diagrams • Tabling
Communication principles	• Avoidance of ambiguity, redundancy, verbosity, circumlocution etc. • Use of headings • Logical ordering • Summarising • Layout • Customising material to audience • Use of graphics and tables

Unit Sector(s)

Unit sector	

Co-requisite units

Co-requisite units		

Competency field

Competency field	Communication

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MEM16011A Communicate with individuals and small groups

Modification History

Not Applicable

Unit Descriptor

Unit descriptor	This unit covers communicating effectively across a range of communication networks in the workplace. Communication levels include interpersonal (one-to-one), person-to-group, and mediated (e.g. telephone, letter, memo).

Application of the Unit

Application of the unit	This unit applies where an individual is required to undertake a broad range of communication activities within a manufacturing or engineering organisation. The person would regularly use a variety of communication channels and media to communicate with others. To satisfy this unit, the person would need to exercise skills in verbal and non-verbal communication, along with demonstrating an understanding of communication principles and processes. Applications include common workplace activities such as facilitating small group discussions and meetings, writing memos or letters, making telephone calls, counselling co-workers, resolving issues or routine conflicts, talks or speeches. This unit includes written communication by letter, short memorandum or report etc. If research and/or structured report writing is required, Unit MEM16009A (Write reports) and/or Unit MEM16009A (Research and analyse engineering information) should be selected. **Band**: This unit has dual status and is to be regarded as both a Specialisation band A unit and Specialisation band

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	B unit for progression to C5 (AQF level V). **Unit Weight**: **2**

Licensing/Regulatory Information

Not Applicable

Pre-Requisites

Prerequisite units		
Path 1	MEM16006A	Organise and communicate information

Employability Skills Information

Employability skills	This unit contains employability skills.

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.

Elements and Performance Criteria

ELEMENT	**PERFORMANCE CRITERIA**
1. Plan and prepare	1.1. Communication types and networks within the

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ELEMENT	PERFORMANCE CRITERIA
communication	enterprise are identified. 1.2. Enterprise conventions, policies and procedures are followed when planning and preparing communication activities. 1.3. Communication channels and codes appropriate to objectives, circumstances and receiver/s are selected. 1.4. Communication is planned and structured to promote the accurate transfer of meaning. 1.5. Communication setting and climate is established appropriate to purpose and content of message. 1.6. Required resources are prepared and or obtained.
2. Communicate effectively in interpersonal, mediated and group settings	2.1. Effective communication skills, strategies and principles are applied to a variety of communication events. 2.2. Verbal and non-verbal language is used appropriate to the topic, sensitivities and technical understanding of the person/s being addressed. 2.3. Individual differences are respected and considered. 2.4. Purpose and objectives of communication are adhered to. 2.5. Participation in communication is encouraged. 2.6. Conventions, rules, policies and procedures are followed.
3. Evaluate communication	3.1. Feedback regarding the effectiveness of the communication activity is obtained. 3.2. Outcomes are assessed against communication objectives and selected channels and codes. 3.3. Communication barriers are identified and strategies for overcoming them are identified and implemented.

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE
This section describes the skills and knowledge required for this unit.
Required skills

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REQUIRED SKILLS AND KNOWLEDGE
Look for evidence that confirms skills in: • selecting and using various communication channels • coding and decoding verbal and non-verbal messages • giving and receiving feedback • identifying blockages, barriers and breakdowns in communication • applying principles of effective communication • applying speaking and listening skills to interpersonal and group situations • using writing skills to communicate technical and non-technical information using common verbal written channels • undertaking reading and comprehension of written workplace communications
Required knowledge
Look for evidence that confirms knowledge of: • communication process, stages and roles • communication types and networks • verbal and non-verbal channels - advantages and disadvantages • verbal and non-verbal codes - advantages and disadvantages • principles, strategies and conventions for interpersonal, mediated and group communication • communication skills for sender and receiver • communication blockages, barriers and breakdowns and strategies for overcoming them • individual differences between communicators and strategies for effective communication • establishing communication climate

Evidence Guide

EVIDENCE GUIDE	
The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.	
Overview of assessment	A person who demonstrates competency in this unit must be able to communicate across a range of environments using different methods and techniques appropriate to the content and purpose of the communication. Competency

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EVIDENCE GUIDE	
	in this unit cannot be claimed until all prerequisites have been satisfied.
Critical aspects for assessment and evidence required to demonstrate competency in this unit	Assessors must be satisfied that the candidate can competently and consistently perform all elements of the unit as specified by the criteria, including required knowledge, and be capable of applying the competency in new and different situations and contexts.
Context of and specific resources for assessment	This unit may be assessed on the job, off the job or a combination of both on and off the job. Where assessment occurs off the job, that is the candidate is not in productive work, then an appropriate simulation must be used where the range of conditions reflects realistic workplace situations. The competencies covered by this unit would be demonstrated by an individual working alone or as part of a team. The assessment environment should not disadvantage the candidate. This unit could be assessed in conjunction with any other units addressing the safety, quality, communication, materials handling, recording and reporting associated with complex communication or other units requiring the exercise of the skills and knowledge covered by this unit.
Method of assessment	Assessors should gather a range of evidence that is valid, sufficient, current and authentic. Evidence can be gathered through a variety of ways including direct observation, supervisor's reports, project work, samples and questioning. Questioning techniques should not require language, literacy and numeracy skills beyond those required in this unit of competency. The candidate must have access to all tools, equipment, materials and documentation required. The candidate must be permitted to refer to any relevant workplace procedures, product and manufacturing specifications, codes, standards, manuals and reference materials.
Guidance information for assessment	

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Range Statement

RANGE STATEMENT	
The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.	
Communication types	• Upward - examples: reporting, suggestions, grievances • Downward - examples: policy, procedure, job instruction, feedback, information • Horizontal - examples: task coordination, conflict resolution, discussion, problem solving, information sharing
Communication networks	• Hierarchies, patterns or clusters of personnel • Enterprise conventions, protocols and procedures for communication
Communication channels and codes	• Channels - defined here as the route a message takes through any of the three broad media: written verbal, spoken verbal and non-verbal • verbal channels involve visual and sound media. • non-verbal channels may involve visual, sound, touch, taste and smell and combinations of these • Codes - defined here as any system of language, symbols, signals, gestures etc. that gives mutual meaning to a message. Codes may be: • verbal (spoken or written language) • non-verbal e.g. symbols and emblems, body language
Effective communication skills, **strategies and principles**	• Questioning and clarifying • Speaking and conversation skills • Effective and active listening • Reading and comprehension skills • Giving and receiving feedback • Giving and interpreting verbal and non-verbal messages • Using the telephone and similar mediated channels

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RANGE STATEMENT	
	• Establishing communication climate • Basic conflict resolution • Seeking and acknowledging contribution • Agreeing on communication protocols • Clarifying the purpose of the communication activity • Principles and protocols for informal and formal meetings • Principles and protocols for speaking to a group • Group discussion strategies, principles and protocols • Interpersonal strategies and principles
Communication events	• Letters, memos, emails etc. • Telephone calls • Group talk • Meetings • Individual and group discussion • Task coordination • Information sharing
Individual differences	• Age, sex, ethnic origin, language • Status in the organisation • Level of expertise

Unit Sector(s)

Unit sector	

Co-requisite units

Co-requisite units		

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Competency field

Competency field	Communication

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MEM16012A Interpret technical specifications and manuals

Modification History

Not Applicable

Unit Descriptor

Unit descriptor	This unit covers identifying, accessing, interpreting and analysing technical information in an enterprise, including quality documentation, equipment manufacturer specifications, engineering data sheets and national standards. It also covers explaining and using the information, and identifying implications of changes to technical information.

Application of the Unit

Application of the unit	This unit goes beyond routine accessing and interpretation of technical information. This unit applies to the identification, access, interpretation and analysis of technical information to enable carrying out engineering or manufacturing activities. For routine accessing, organising and communication of information related to processes or tasks, MEM16006A Organise and communicate information should be regarded as sufficient. **Band**: **B** **Unit Weight**: **4**

Licensing/Regulatory Information

Not Applicable

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Pre-Requisites

Prerequisite units	

Employability Skills Information

Employability skills	This unit contains employability skills.

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.

Elements and Performance Criteria

ELEMENT	**PERFORMANCE CRITERIA**
1. Identify and locate technical information resources	1.1. Information needs are identified and confirmed with appropriate persons. 1.2. Workplace information resources are identified and their location is determined in the information system. 1.3. Appropriate technical information is obtained.
2. Access technical information	2.1. Relevant technical information is located using search techniques appropriate to the resource and information requirements. 2.2. Symbols, codes, legends, and abbreviations are interpreted correctly. 2.3. Technical information is accessed and relevant

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ELEMENT	PERFORMANCE CRITERIA
	application is understood. 2.4. Clarification or further explanation of technical information is obtained, where required. 2.5. If applicable, the revision status of the technical information is verified to ensure current status.
3. Interpret and analyse technical information	3.1. Technical information/data appropriate to work requirements and/or application is checked for currency and authenticity. 3.2. Technical information is interpreted and analysed for use in given engineering or manufacturing applications. 3.3. Technical information is used according to the specific engineering or manufacturing application.
4. Explain and use information	4.1. Information and analyses is explained and distributed to appropriate personnel. 4.2. Information resources are used according to work requirements. 4.3. Where applicable, work is undertaken in accordance with acquired technical information.
5. Identify implications of changes to technical information	5.1. Technical information systems are monitored for changes. 5.2. Personnel affected by changes to internal or external specifications or other technical information are identified. 5.3. Means of distributing changed information are established. 5.4. Changes to technical information are documented according to enterprise procedures.

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE This section describes the skills and knowledge required for this unit.
Required skills
Look for evidence that confirms skills in: • accessing, reading and following information on written job instructions,

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REQUIRED SKILLS AND KNOWLEDGE
specifications, standard operating procedures, charts, lists, drawings and other applicable reference documents • planning, sequencing operations • following oral/written instructions • checking and clarifying task-related information • checking for conformance to specifications • undertaking numerical operations and calculations/formulae within the scope of this unit • entering information onto workplace documents • accessing and using technical documentation • identifying and using correct specifications for process and/or systems • using components of system, where appropriate • completing formal documentation and reporting as required • adopting appropriate communication strategy, including confirmation of received information and distribution of instructions • communicating information in ways appropriate for the audience • maintaining appropriate records • identifying and analysing implications of changes to information systems
Required knowledge
Look for evidence that confirms knowledge of: • available industry information resources • uses and applications of information resources • range of formats that information can be presented • safe work practices and procedures • location and retrieval requirements of system information • correct process used to identify relevant specifications • quality improvement processes for information systems • interpretation of technical data and information • appropriate communication strategies • dissemination of information regarding information systems • a range of instructional techniques • implications of changes to technical information • procedures for responding to information changes • hazards and control measures associated with changes to technical information, including housekeeping • safe workplace practices and procedures

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Evidence Guide

EVIDENCE GUIDE	
The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.	
Overview of assessment	A person who demonstrates competency in this unit must be able to interpret and analyse information from specifications and manuals.
Critical aspects for assessment and evidence required to demonstrate competency in this unit	Assessors must be satisfied that the candidate can competently and consistently perform all elements of the unit as specified by the criteria, including required knowledge, and be capable of applying the competency in new and different situations and contexts.
Context of and specific resources for assessment	This unit may be assessed on the job, off the job or a combination of both on and off the job. Where assessment occurs off the job, that is the candidate is not in productive work, then an appropriate simulation must be used where the range of conditions reflects realistic workplace situations. The competencies covered by this unit would be demonstrated by an individual working alone or as part of a team. The assessment environment should not disadvantage the candidate. This unit could be assessed in conjunction with any other units addressing the safety, quality, communication, materials handling, recording and reporting associated with interpreting and analysing information from specifications and manuals or other units requiring the exercise of the skills and knowledge covered by this unit.
Method of assessment	Assessors should gather a range of evidence that is valid, sufficient, current and authentic. Evidence can be gathered through a variety of ways including direct observation, supervisor's reports, project work, samples and questioning. Questioning techniques should not require language, literacy and numeracy skills beyond those required in this unit of competency. The candidate must have access to all tools, equipment, materials and documentation required. The candidate must be permitted to refer to any relevant workplace procedures, product and manufacturing specifications, codes, standards, manuals and reference materials.
Guidance information for	

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EVIDENCE GUIDE	
assessment	

Range Statement

RANGE STATEMENT	
The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.	
Information resources	Documented management system (manufacturing, quality, environmental, occupational health and safety), manufacturers' manuals, specifications, Australian and international standards, customer requirements, industry manuals, codes of practice, legislation etc. in hard and soft copy
Location	Reference libraries, workplace storage areas, internet, site
Information system	Internal and/or external. The system would typically have documentation tiers
Technical information	Technical information and data suitable and appropriate for advanced trade and technician applications within the enterprise. This unit does not cover documentation written for professional engineering or scientist applications
Search techniques	• Computer database and internet search/look-up • Standard techniques to identify relevant information including skimming and scanning, identifying key words/ideas, using index, table of contents, numbering and classification systems etc.
Analyses	Conclusions made from the analysis of technical information

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Unit Sector(s)

Unit sector	

Co-requisite units

Co-requisite units		

Competency field

Competency field	Communication

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MEM16013A Operate in a self-directed team

Modification History

Not Applicable

Unit Descriptor

Unit descriptor	This unit covers an individual effectively participating in a highly developed and self-directed team.

Application of the Unit

Application of the unit	This unit applies to participation in a formally established, developed or developing self-directed team. Examples are engineering production teams responsible for a product or process, maintenance teams and special-purpose project teams. Typically, team parameters, constraints and objectives would be determined by sources external to the team. The team would be responsible for all aspects of its designated function and members would have day-to-day responsibility for managing themselves and their work. Typical team tasks might include planning and scheduling activities, making production-related decisions and acting on problems. Where team parameters require adjustment as a result of team discussions or planning, then appropriate authorisation and approvals are established using standard operating procedures. Individual team participants would already be competent with technical aspects of team activities. This unit is intended to apply to participation within a formally established and recognised team. Where an individual works with others, such as within a section or department, unit MEM16007A (Work with others in a manufacturing, engineering or related environment) should be regarded as sufficient. This unit may be included in a Certificate II in

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	Engineering - Production Technology or higher qualification. **Band**: This unit has dual status and is to be regarded as both a Specialisation band A unit and Specialisation band B unit for progression to C5 (AQF level V). **Unit Weight**: **2**

Licensing/Regulatory Information

Not Applicable

Pre-Requisites

Prerequisite units		
Path 1	MEM16007A	Work with others in a manufacturing, engineering or related environment

Employability Skills Information

Employability skills	This unit contains employability skills.

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent

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	with the evidence guide.

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Identify team function and composition	1.1. Team purpose and scope are identified and understood. 1.2. Team composition, including role of self and team members, is understood. 1.3. Established parameters, rules and team norms are identified and understood.
2. Participate in team planning	2.1. Significant contribution is made to planning the team activities, based on the individual's technical skills, knowledge and competence. 2.2. Contribution is made to the allocation and performance of team tasks.
3. Function effectively as a team member	3.1. Interaction with team members is in accordance with established rules, conventions and procedures. 3.2. Tasks and responsibilities are performed effectively and in accordance with team objectives. 3.3. Real or perceived issues are resolved by effective and appropriate contributions from team member. 3.4. Significant contribution is made to team performance, based on member's own technical skills and application of established principles and practices for effective teamwork.
4. Monitor and review team performance	4.1. The team member participates effectively in the planning and development of team review process. 4.2. Relevant performance data is collected and analysed on an individual and team basis using standard enterprise procedures and methodology. 4.3. Results are used to evaluate own and team performance against established performance indicators and to assist determination of improvement requirements. 4.4. Principles/techniques for effective team development are used to identify own/team improvement strategies.
5. Implement team performance	5.1. Performance improvement processes and strategies are implemented on an individual and collective basis

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ELEMENT	PERFORMANCE CRITERIA
improvements	using standard enterprise procedures. 5.2. Individual and team performance improvements are evaluated using standard enterprise procedures. 5.3. Adjustments to improvement strategies are made in accordance with team requirements and standard enterprise procedures.

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

Look for evidence that confirms skills in:

- identifying team goals and objectives
- participating in team planning - shared and individual
- allocating tasks and sequencing activities
- communicating and interacting effectively with team members
- solving problems individually and with others
- resolving conflict
- performing various team behavioural functions - task and maintenance focused
- making individual and joint decisions
- coordinating effort with others to achieve common objectives
- collecting team performance data
- reviewing performance against indicators
- identifying strategies to improve team performance
- implementing performance improvement processes
- reading, interpreting and following information on written job instructions, specifications, standard operating procedures, charts, lists, drawings and other applicable reference documents
- checking and clarifying task-related information
- checking for conformance to specifications

Required knowledge

Look for evidence that confirms knowledge of:

- team objectives
- team targets/goals, performance indicators

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REQUIRED SKILLS AND KNOWLEDGE
• team member roles - task and behavioural • team processes, rules and conventions • scope of work for which the team is responsible • methods for planning team activities • team member technical skills, knowledge and competence, relevant to the tasks being planned • the person(s) responsible for team planning • impact of planning decisions on other teams, personnel and/or resources • procedures for obtaining resources • structure, formation and operation of teams • characteristics of effective teams • strategies for effective team development/functioning • effective team communication • forms of team leadership and decision-making • strategies for resolving conflict • techniques for team problem-solving • issues that may affect team performance • the sources of data relevant team performance indicators • reasons for reviewing team performance • methods/procedures to evaluate team performance • where appropriate, source(s) of approval to change team performance parameters • processes/strategies for improving team performance • hazards and control measures associated with operating in a self-directed team environment, including housekeeping • safe work practices and procedures

Evidence Guide

EVIDENCE GUIDE	
The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.	
Overview of assessment	A person who demonstrates competency in this unit must be able to operate within a self-directed team. Competency in this unit cannot be claimed until all prerequisites have been satisfied.

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EVIDENCE GUIDE	
Critical aspects for assessment and evidence required to demonstrate competency in this unit	Assessors must be satisfied that the candidate can competently and consistently perform all elements of the unit as specified by the criteria, including required knowledge, and be capable of applying the competency in new and different situations and contexts.
Context of and specific resources for assessment	This unit may be assessed on the job, off the job or a combination of both on and off the job. Where assessment occurs off the job, that is the candidate is not in productive work, then an appropriate simulation must be used where the range of conditions reflects realistic workplace situations. The competencies covered by this unit would be demonstrated by an individual working alone or as part of a team. The assessment environment should not disadvantage the candidate. This unit could be assessed in conjunction with any other units addressing the safety, quality, communication, materials handling, recording and reporting associated with operating within a self-directed team or other units requiring the exercise of the skills and knowledge covered by this unit.
Method of assessment	Assessors should gather a range of evidence that is valid, sufficient, current and authentic. Evidence can be gathered through a variety of ways including direct observation, supervisor's reports, project work, samples and questioning. Questioning techniques should not require language, literacy and numeracy skills beyond those required in this unit of competency. The candidate must have access to all tools, equipment, materials and documentation required. The candidate must be permitted to refer to any relevant workplace procedures, product and manufacturing specifications, codes, standards, manuals and reference materials.
Guidance information for assessment	

Range Statement

RANGE STATEMENT

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RANGE STATEMENT	
The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.	
Team	• A highly developed and cohesive work group in which the individuals have a common aim, and in which the jobs and skills of each member fit in with those of others • Team members manage day-to-day activities within operating parameters and constraints • The team is typically characterised by interdependent and complementary effort, high cohesion and culture, conjunctive tasks, effective use of team resources and a focus on continuous improvement • The team may have a single leader or shared leadership
Principles and practices for effective teamwork	Relating to: • goals • problem solving • resolving conflict • team leadership • team decision making • team rules and norms • team roles and behaviours • team maintenance

Unit Sector(s)

Unit sector	

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Co-requisite units

Co-requisite units		

Competency field

Competency field	Communication

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MEM17001B Assist in development and deliver training in the workplace

Modification History

Single band identifier removed to clarify dual status

Unit Descriptor

Unit descriptor	This unit covers planning for and delivering on the job training, and reviewing the training program. Training, which may structured or informal, is delivered in a one-to-one or small group situation.

Application of the Unit

Application of the unit	Training is delivered in a one-to-one or small group situation. The training may be structured or informal and based on cooperation between trainer and other training personnel. Both underpinning knowledge and practical skills are covered by the training. Training may be applied to technical, induction, OHS or other areas. Normal supervision of an apprentice is covered by Unit MEM17003A (Assist in the provision of on the job training). This unit does not cover assessment. Assessor skills are covered in Unit MEM17002B (Conduct workplace assessment). **Band:** This unit has dual status and is to be regarded as both a Specialisation band A unit and Specialisation band B unit for progression to C5 (AQF level V). **Unit Weight**: **2**

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Licensing/Regulatory Information

Not Applicable

Pre-Requisites

Prerequisite units	

Employability Skills Information

Employability skills	This unit contains employability skills.

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.

Elements and Performance Criteria

ELEMENT	**PERFORMANCE CRITERIA**
1. Plan for delivery of on the job training	1.1. Objectives of training and competency to be achieved are identified. 1.2. Role in provision of training is clarified.
2. Deliver on the job training	2.1. Training objectives are explained to trainee. 2.2. Training is carried out using appropriate techniques: logical presentation; sound communication methods; explanation, demonstration; practice; feedback. 2.3. Trainee progress is monitored and constructive

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ELEMENT	PERFORMANCE CRITERIA
	feedback is provided to trainee.
3. Review training program	3.1. Training program is evaluated according to standard operating procedures. 3.2. Training data is recorded according to standard operating procedures. 3.3. Training is reported according to standard operating procedures. 3.4. Training is promoted according to standard operating procedures.

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE
This section describes the skills and knowledge required for this unit.
Required skills
Look for evidence that confirms skills in: • communicating effectively with the trainee • applying training techniques appropriate to the trainee and training requirements • giving feedback • monitoring and recording trainee progress • evaluating training program • recording training data • completing reports on training completed and training required • promoting training within the workplace
Required knowledge
Look for evidence that confirms knowledge of: • competencies to be achieved through the training • role of the trainer in the provision of training • training techniques to be used in delivering the training • reasons for selecting the chosen training techniques • procedures for recording trainee progress • reasons for providing positive feedback • procedures for evaluating training programs • reasons for evaluating training programs

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REQUIRED SKILLS AND KNOWLEDGE
• training records to be kept • procedures for recording training data • procedures for preparing training reports • procedures for promoting training in the workplace • reasons for promoting training in the workplace

Evidence Guide

EVIDENCE GUIDE	
The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.	
Overview of assessment	A person who demonstrates competency in this unit must be able to assist in development and delivery of training in the workplace.
Critical aspects for assessment and evidence required to demonstrate competency in this unit	Assessors must be satisfied that the candidate can competently and consistently perform all elements of the unit as specified by the criteria, including required knowledge, and be capable of applying the competency in new and different situations and contexts.
Context of and specific resources for assessment	This unit may be assessed on the job, off the job or a combination of both on and off the job. Where assessment occurs off the job, that is the candidate is not in productive work, then an appropriate simulation must be used where the range of conditions reflects realistic workplace situations. The competencies covered by this unit would be demonstrated by an individual working alone or as part of a team. The assessment environment should not disadvantage the candidate. This unit could be assessed in conjunction with any other units addressing the safety, quality, communication, materials handling, recording and reporting associated with assisting in the development and delivery of training in the workplace or other units requiring the exercise of the skills and knowledge covered by this unit.
Method of assessment	Assessors should gather a range of evidence that is valid, sufficient, current and authentic. Evidence can be

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EVIDENCE GUIDE	
	gathered through a variety of ways including direct observation, supervisor's reports, project work, samples and questioning. Questioning techniques should not require language, literacy and numeracy skills beyond those required in this unit of competency. The candidate must have access to all tools, equipment, materials and documentation required. The candidate must be permitted to refer to any relevant workplace procedures, product and manufacturing specifications, codes, standards, manuals and reference materials.
Guidance information for assessment	

Range Statement

RANGE STATEMENT	
The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.	
Objectives of training	Achieve effective and safe operation of equipment, induction to organisational practices and procedures, continuous improvement, provision of technical information
On the job training	Logical presentation; sound communication methods; explanation, demonstration; practice; feedback

Unit Sector(s)

Unit sector	

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Co-requisite units

Co-requisite units		

Competency field

Competency field	Training

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MEM17003A Assist in the provision of on the job training

Modification History

Not Applicable

Unit Descriptor

Unit descriptor	This unit covers assisting in the provision of on the job training to others while undertaking normal duties.

Application of the Unit

Application of the unit	This unit may involve the replacement of normal duties with training duties for limited periods of time. The individual would not be expected to be solely responsible for the assessment or reporting of a trainee's progress. Typical applications could include the provision of on the job guidance by a tradesperson to apprentices/trainees or by a production worker to other production workers/trainees. Where development of training programs is involved see Unit MEM17001B (Assist in development and deliver training in the workplace). **Band**: **A** **Unit Weight**: **2**

Licensing/Regulatory Information

Not Applicable

Pre-Requisites

Prerequisite units	

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Prerequisite units	

Employability Skills Information

Employability skills	This unit contains employability skills.

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.

Elements and Performance Criteria

ELEMENT	**PERFORMANCE CRITERIA**
1. Determine role of on the job training	1.1. Objectives of training and role of on the job training are identified in consultation with team leaders or other appropriate personnel.
2. Provide on the job training	2.1. Training is conducted using learning methods appropriate to the training objectives and learner. 2.2. Trainee progress is monitored and feedback is provided appropriate to the learning outcomes.
3. Report on trainee performance	3.1. Trainee's progress is reported according to standard operating procedure.

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Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

Look for evidence that confirms skills in:

- obtaining all relevant information with respect to the training to be provided
- applying suitable training methods
- providing feedback to the trainee throughout the training process
- reporting on the trainee's progress
- reading, interpreting and following information on written job instructions, specifications, standard operating procedures, charts, lists, drawings and other applicable reference documents
- planning and sequencing operations
- checking and clarifying task-related information

Required knowledge

Look for evidence that confirms knowledge of:

- training to be delivered
- personnel to be consulted with respect to the training to be provided
- the individual's role in the provision of training
- objectives of the training
- the person(s) to be trained
- procedures to be followed when training individuals
- training location(s)
- tools, equipment, procedures, materials and resources
- training delivery methods, their applications, advantages and disadvantages
- feedback techniques
- reasons for monitoring trainee progress
- reporting procedures
- hazards and control measures associated with assisting in the provision of on the job training, including housekeeping
- safe work practices and procedures

Evidence Guide

EVIDENCE GUIDE

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EVIDENCE GUIDE	
The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.	
Overview of assessment	A person who demonstrates competency in this unit must be able to assist in the provision of on the job training.
Critical aspects for assessment and evidence required to demonstrate competency in this unit	Assessors must be satisfied that the candidate can competently and consistently perform all elements of the unit as specified by the criteria, including required knowledge, and be capable of applying the competency in new and different situations and contexts.
Context of and specific resources for assessment	This unit may be assessed on the job, off the job or a combination of both on and off the job. Where assessment occurs off the job, that is the candidate is not in productive work, then an appropriate simulation must be used where the range of conditions reflects realistic workplace situations. The competencies covered by this unit would be demonstrated by an individual working alone or as part of a team. The assessment environment should not disadvantage the candidate. This unit could be assessed in conjunction with any other units addressing the safety, quality, communication, materials handling, recording and reporting associated with assisting in the provision of on the job training or other units requiring the exercise of the skills and knowledge covered by this unit.
Method of assessment	Assessors should gather a range of evidence that is valid, sufficient, current and authentic. Evidence can be gathered through a variety of ways including direct observation, supervisor's reports, project work, samples and questioning. Questioning techniques should not require language, literacy and numeracy skills beyond those required in this unit of competency. The candidate must have access to all tools, equipment, materials and documentation required. The candidate must be permitted to refer to any relevant workplace procedures, product and manufacturing specifications, codes, standards, manuals and reference materials.
Guidance information for assessment	

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Range Statement

RANGE STATEMENT	
The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.	
Learning methods	Explanation, demonstration, simulation
Report	Should include information about the skills satisfactorily achieved and those where further practice is required

Unit Sector(s)

Unit sector	

Co-requisite units

Co-requisite units		

Competency field

Competency field	Training

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MEM18001C Use hand tools

Modification History

Not Applicable

Unit Descriptor

Unit descriptor	This unit covers using a range of hand tools for a variety of general engineering applications.

Application of the Unit

Application of the unit	Applications may include hand tools used for adjusting, dismantling, assembling and finishing of items or components, and the finishing, cutting, scraping of metallic and non-metallic material to size and shape. This includes simple tapping and threading and routine maintenance of hand tools. This unit should not be selected if the hand tool is dedicated to a single operation or machine and if only a machine specific/customised tool is used. When using hand held power tools or power tools used for hand held operations, refer to Unit MEM18002B (Use power tools/hand held operations). **Band**: **A** **Unit Weight**: **2**

Licensing/Regulatory Information

Not Applicable

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Pre-Requisites

Prerequisite units	

Employability Skills Information

Employability skills	This unit contains employability skills.

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.

Elements and Performance Criteria

ELEMENT	**PERFORMANCE CRITERIA**
1. Use hand tools	1.1. Hand tools are selected appropriate to the task requirements. 1.2. Hand tools are used to produce desired outcomes to job specifications which may include finish, tension, size or shape. 1.3. All safety requirements are adhered to before, during and after use. 1.4. Unsafe or faulty tools are identified and marked for repair according to designated procedures before, during and after use. 1.5. Routine maintenance of tools, including hand sharpening is undertaken according to standard

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ELEMENT	PERFORMANCE CRITERIA
	operational procedures, principles and techniques. 1.6. Hand tools are stored safely in appropriate location according to standard operational procedures and manufacturers' recommendations.

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE
This section describes the skills and knowledge required for this unit.
Required skills
Look for evidence that confirms skills in: • reading and following information on standard operating procedures • following verbal instructions • selecting hand tools appropriate to the task • using hand tools safely • identifying hand tool defects and marking for repair • maintaining/sharpening hand tools using appropriate techniques • storing hand tools in accordance with manufacturers'/standard operating procedures
Required knowledge
Look for evidence that confirms knowledge of: • applications of different hand tools in a general engineering context • 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 • storage location and procedures for a range of hand tools • hazards and control measures associated with using hand tools • use and application of personal protective equipment • safe work practices and procedures

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Evidence Guide

EVIDENCE GUIDE	
The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.	
Overview of assessment	A person who demonstrates competency in this unit must be able to use hand tools for a range of general engineering applications.
Critical aspects for assessment and evidence required to demonstrate competency in this unit	Assessors must be satisfied that the candidate can competently and consistently perform all elements of the unit as specified by the criteria, including required knowledge, and be capable of applying the competency in new and different situations and contexts.
Context of and specific resources for assessment	This unit may be assessed on the job, off the job or a combination of both on and off the job. Where assessment occurs off the job, that is the candidate is not in productive work, then an appropriate simulation must be used where the range of conditions reflects realistic workplace situations. The competencies covered by this unit would be demonstrated by an individual working alone or as part of a team. The assessment environment should not disadvantage the candidate. This unit could be assessed in conjunction with any other units addressing the safety, quality, communication, materials handling, recording and reporting associated with using hand tools or other units requiring the exercise of the skills and knowledge covered by this unit.
Method of assessment	Assessors should gather a range of evidence that is valid, sufficient, current and authentic. Evidence can be gathered through a variety of ways including direct observation, supervisor's reports, project work, samples and questioning. Questioning techniques should not require language, literacy and numeracy skills beyond those required in this unit of competency. The candidate must have access to all tools, equipment, materials and documentation required. The candidate must be permitted to refer to any relevant workplace procedures, product and manufacturing specifications, codes, standards, manuals and reference materials.
Guidance information for assessment	

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Range Statement

RANGE STATEMENT	
The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.	
Hand tools	Hacksaws, hammers, punches, screwdrivers, sockets, wrenches, scrapers, chisels, gouges, wood planes and files of all cross-sectional shapes and types
Job specifications	Finish, tension, size or shape etc.
Routine maintenance	Cleaning, lubricating, tightening, simple tool repairs, hand sharpening and adjustments using engineering principles, tools, equipment and procedures

Unit Sector(s)

Unit sector	

Co-requisite units

Co-requisite units		

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Competency field

Competency field	Maintenance and diagnostics

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MEM18002B Use power tools/hand held operations

Modification History

Not Applicable

Unit Descriptor

Unit descriptor	This unit covers using a range of hand held power tools and fixed power tools for hand held operations for a variety of general engineering applications.

Application of the Unit

Application of the unit	This unit applies to loosening and fastening items or components and shaping, finishing, cutting, grinding metallic and non-metallic materials and/or tool bits to size and shape. This unit should not be selected if the power tools used are dedicated to an operation or machine, e.g. nut-runner, air drill, power driver, etc. For using hand tools, see Unit MEM18001C (Use hand tools). **Band**: **A** **Unit Weight**: **2**

Licensing/Regulatory Information

Not Applicable

Pre-Requisites

Prerequisite units	

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Prerequisite units	

Employability Skills Information

Employability skills	This unit contains employability skills.

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.

Elements and Performance Criteria

ELEMENT	**PERFORMANCE CRITERIA**
1. Use power tools	1.1. Power tools are selected appropriate to the task requirements. 1.2. Power tools are used for a determined sequence of operations - which may include clamping, alignment and adjustment to produce desired outcomes - to job specifications which may include finish, size or shape. 1.3. All safety requirements are adhered to before, during and after use. 1.4. Unsafe or faulty tools are identified and marked for repair before, during and after use according to designated procedures. 1.5. Operational maintenance of tools, including hand sharpening, is undertaken according to standard

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ELEMENT	PERFORMANCE CRITERIA
	workplace procedures, principles and techniques. 1.6. Power tools are stored safely in appropriate location according to standard workshop procedures and manufacturers' recommendations.

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE
This section describes the skills and knowledge required for this unit.
Required skills
Look for evidence that confirms skills in: • reading and following information on standard operating procedures • following verbal instructions • selecting power tools appropriate to the task • using power tools safely • using clamping/securing devices • identifying power tool defects • maintaining power tools using appropriate techniques • sharpening tools/tool bits within the scope of this unit • storing power tools according to manufacturers'/ standard operating procedures.
Required knowledge
Look for evidence that confirms knowledge of: • 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 of a range of power tools • tool sharpening techniques for a range of power tools • storage location and procedures of a range of power tools • hazards/control measures associated with power tools • use and application of personal protective equipment • safe work practices and procedures

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Evidence Guide

EVIDENCE GUIDE	
The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.	
Overview of assessment	A person who demonstrates competency in this unit must be able to use power tools/hand held operations.
Critical aspects for assessment and evidence required to demonstrate competency in this unit	Assessors must be satisfied that the candidate can competently and consistently perform all elements of the unit as specified by the criteria, including required knowledge, and be capable of applying the competency in new and different situations and contexts.
Context of and specific resources for assessment	This unit may be assessed on the job, off the job or a combination of both on and off the job. Where assessment occurs off the job, that is the candidate is not in productive work, then an appropriate simulation must be used where the range of conditions reflects realistic workplace situations. The competencies covered by this unit would be demonstrated by an individual working alone or as part of a team. The assessment environment should not disadvantage the candidate. This unit could be assessed in conjunction with any other units addressing the safety, quality, communication, materials handling, recording and reporting associated with using power tools/hand held operations or other units requiring the exercise of the skills and knowledge covered by this unit.
Method of assessment	Assessors should gather a range of evidence that is valid, sufficient, current and authentic. Evidence can be gathered through a variety of ways including direct observation, supervisor's reports, project work, samples and questioning. Questioning should not require language, literacy and numeracy skills beyond those required in this unit. The candidate must have access to all tools, equipment, materials and documentation required. The candidate must be permitted to refer to any relevant workplace procedures, product and manufacturing specifications, codes, standards, manuals and reference materials.

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EVIDENCE GUIDE	
Guidance information for assessment	

Range Statement

RANGE STATEMENT	
The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.	
Power tools	Electric or pneumatic/hydraulic drills, grinders, jigsaws, nibblers, cutting saws, sanders, planers, routers, pedestal drills and pedestal grinders
Clamping	Multigrips, vices, jigs and fixtures, clamps etc.
Job specifications	Finish, size or shape etc.
Operational maintenance	Hand sharpening, cleaning, lubricating, tightening Simple tool repairs and adjustments using engineering principles, tools, equipment and procedures to statutory and regulatory requirements

Unit Sector(s)

Unit sector	

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Co-requisite units

Co-requisite units		

Competency field

Competency field	Maintenance and diagnostics

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MEM18038B Maintain wheels and tyres

Modification History

Not Applicable

Unit Descriptor

Unit descriptor	This unit covers assessing wheel condition, and repairing/replacing and maintaining the wheel.

Application of the Unit

Application of the unit	This unit applies to the basic maintenance and repair or replacement of wheel rims and to the full range of wheel/tyre assemblies, plant and equipment using appropriate regulations, codes of practice, manufacturers' specifications or in-house standards as a guide for assessment repair and assembly. For complex rim repairs, appropriate fitting or welding units may be required, for example, Unit MEM18003C (Use tools for precision work) and Unit MEM18006C (Repair and fit engineering components). **Band**: **A** **Unit Weight**: **2**

Licensing/Regulatory Information

Not Applicable

Pre-Requisites

Prerequisite units		
Path 1	MEM18001C	Use hand tools

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Prerequisite units		

Employability Skills Information

Employability skills	This unit contains employability skills.

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.

Elements and Performance Criteria

ELEMENT	**PERFORMANCE CRITERIA**
1. Assess wheel condition	1.1. Rim/tyre designs, constructions, codes, balancing, fastening principles and terminology are understood. 1.2. Fastening components are correctly assessed for damage and security. 1.3. Abnormal tyre wear is recognised and cause of fault is correctly determined. 1.4. Unsafe tyre and/or wheel condition is recognised and remedial action is determined.
2. Rectify and maintain wheel	2.1. Safety procedures associated with tyre/wheel removal, handling, inflation, assembly and disassembly and fastening are understood and adhered to. 2.2. Wheels/tyres are safely removed and replaced using standard procedures and appropriate tools/equipment. 2.3. Tools and equipment are correctly applied and used.

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ELEMENT	PERFORMANCE CRITERIA
	2.4. Ballasting and/or inflation of tyres is performed safely and to specification. 2.5. Static/dynamic balancing of wheels is performed to specification. 2.6. Rim/tyre/tube faults are rectified to specifications, regulations or codes. 2.7. Rectification activities are accurately recorded. 2.8. Wheel bearings are correctly lubricated to specification.

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE
This section describes the skills and knowledge required for this unit.
Required skills
Look for evidence that confirms skills in: • reading, interpreting and following information on written job instructions, specifications, standard operating procedures, charts, lists, drawings and other applicable reference documents • planning and sequencing operations • checking task-related information • checking for conformance to specification • identifying damaged fastening components • identifying abnormal tyre wear • checking wheel fastening components for damage and security • identifying corrective action to be taken for unsafe tyre and wheel condition • removing and replacing wheels/tyres using appropriate tools and equipment • using tools and equipment correctly and appropriately • undertaking ballasting and/or inflation of tyres • balancing wheels to specification • identifying repairable rim, tyre and tube faults • repairing faults in rims/tyres/tubes to specification • recording work activities • lubricating wheel bearings in accordance with specification
Required knowledge

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REQUIRED SKILLS AND KNOWLEDGE
Look for evidence that confirms knowledge of: • the design and construction of a variety of rims and tyres • the principles of fastening and balancing of wheels • the relevant codes and standards • the procedures for checking wheels for secure fastening • the reasons for checking fastening components for damage and security • the causes of abnormal tyre wear • examples and causes of unsafe tyre and wheel condition • the procedures for removing, handling, inflating, assembling/disassembling and fastening of tyres and wheels • the safety precautions to be taken when working with wheels and tyres • the tools, techniques and equipment required to carry out the above procedures • the procedures, tools, techniques and equipment for static and dynamic balancing of wheels • the reasons for selecting the chosen tools, techniques and equipment • the procedures, tools, techniques and equipment for repairing rim, tyre and tube faults • examples of unrepairable rim, tyre and tube faults • the procedures for recording repairs undertaken on rims, tyres and tubes • the procedures for lubricating wheel bearings • types of wheel bearing lubricant and their application • hazards and control measures associate with maintaining and rectifying wheels and tyres, including housekeeping • safe work practices and procedures

Evidence Guide

EVIDENCE GUIDE	
The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.	
Overview of assessment	A person who demonstrates competency in this unit must be able to maintain wheels and tyres. Competency in this unit cannot be claimed until all prerequisites have been satisfied.
Critical aspects for assessment and	Assessors must be satisfied that the candidate can

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EVIDENCE GUIDE	
evidence required to demonstrate competency in this unit	competently and consistently perform all elements of the unit as specified by the criteria, including required knowledge, and be capable of applying the competency in new and different situations and contexts.
Context of and specific resources for assessment	This unit may be assessed on the job, off the job or a combination of both on and off the job. Where assessment occurs off the job, that is the candidate is not in productive work, then an appropriate simulation must be used where the range of conditions reflects realistic workplace situations. The competencies covered by this unit would be demonstrated by an individual working alone or as part of a team. The assessment environment should not disadvantage the candidate. This unit could be assessed in conjunction with any other units addressing the safety, quality, communication, materials handling, recording and reporting associated with maintaining wheels and tyres, or other units requiring the exercise of the skills and knowledge covered by this unit.
Method of assessment	Assessors should gather a range of evidence that is valid, sufficient, current and authentic. Evidence can be gathered through a variety of ways including direct observation, supervisor's reports, project work, samples and questioning. Questioning techniques should not require language, literacy and numeracy skills beyond those required in this unit of competency. The candidate must have access to all tools, equipment, materials and documentation required. The candidate must be permitted to refer to any relevant workplace procedures, product and manufacturing specifications, codes, standards, manuals and reference materials.
Guidance information for assessment	

Range Statement

RANGE STATEMENT
The range statement relates to the unit of competency as a whole. It allows for different

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RANGE STATEMENT	
work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.	

Unit Sector(s)

Unit sector	

Co-requisite units

Co-requisite units		

Competency field

Competency field	Maintenance and diagnostics

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MEM18045B Fault find/repair electrical equipment/components up to 250 volts single phase supply

Modification History

Not Applicable

Unit Descriptor

Unit descriptor	This unit covers locating and rectifying faults in equipment and components using up to 250 V single phase power where these are disconnected from the electrical supply.

Application of the Unit

Application of the unit	This unit covers the competencies required to locate and rectify faults in equipment and components using up to 250 V single phase power, where they are disconnected from their electrical supply. This would also typically cover plug-in appliances. Work is performed onsite. This unit also covers basic mechanical disconnection, dismantling and re-assembly of equipment components, enclosures, drives etc. This unit should not be selected if Unit MEM18046B (Fault find/repair electrical equipment/components up to 1000 volts a.c./1500 volts d.c.) has been selected. When work involves disconnection and reconnection of fixed-wired equipment, Unit MEM18049C (Disconnect/reconnect fixed wired equipment up to 1000 volts a.c./1500 volts d.c.) must also be selected. **Band**: **A** **Unit Weight**: **4**

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Licensing/Regulatory Information

Not Applicable

Pre-Requisites

Prerequisite units		
Path 1	MEM09002B	Interpret technical drawing
	MEM10002B	Terminate and connect electrical wiring
	MEM12002B	Perform electrical/electronic measurement
	MEM12023A	Perform engineering measurements
	MEM18001C	Use hand tools
	MEM18002B	Use power tools/hand held operations

Employability Skills Information

Employability skills	This unit contains employability skills.

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.

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Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Locate fault	1.1. Equipment/*component* function is determined by reference to circuit diagrams, schematics, manual and/or consultation with technical adviser. 1.2. Where required, equipment is correctly isolated from power supply. 1.3. Where appropriate, built-in fault indicators and error codes are examined and correctly interpreted, and results are recorded to standard operating procedures. 1.4. Equipment/component is checked and tested using correct and *appropriate techniques*, procedures, tools and *test equipment*. 1.5. Check and test results are correctly interpreted and, where required, verified. 1.6. Equipment/component fault is identified and localised. 1.7. Equipment/component fault/s are correctly recorded to standard operating procedures.
2. Rectify faults	2.1. Using correct and appropriate techniques, procedures, tools and equipment, equipment/component/s are repaired, replaced or adjusted to specification or manufacturers' requirements. 2.2. Equipment/component is checked and tested using correct and appropriate techniques, procedures, tools and equipment for compliance with site or manufacturers' specifications. 2.3. Where appropriate, rectifications report is recorded to standard operating procedures.

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE
This section describes the skills and knowledge required for this unit.
Required skills
Look for evidence that confirms skills in: • obtaining circuit diagrams, specifications, schematics

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REQUIRED SKILLS AND KNOWLEDGE

- isolating electrical equipment/component from the power supply
- tagging and checking isolated electrical equipment/component
- locating and reading/recording built-in fault indicators
- checking and testing electrical equipment/component for correct operation
- verifying variations from specifications indicated by initial test results
- identifying and localising faults in electrical equipment/ components
- recording/reporting faults in the electrical equipment/components
- repairing, replacing or adjusting electrical equipment/components to specification
- referencing supplier catalogues
- confirming that the electrical equipment/components have been returned to specification
- recording rectification of the electrical equipment/ components

Required knowledge

Look for evidence that confirms knowledge of:

- operation and characteristics of active and passive components
- basic motor operation of various types
- function of the electrical equipment/component within the circuit
- hazards associated with the electrical equipment/component
- relevant regulatory requirements
- electrical equipment/component isolation procedures
- test equipment to be used to verify isolation of the electrical equipment/circuit
- errors indicated by built-in devices
- the procedures, tools, equipment and techniques to be used to test the operation of the electrical equipment/component
- reasons for selecting the chosen tools, equipment and techniques
- specifications of the electrical equipment/component
- variations between test results and specifications
- procedures for localising faults in electrical equipment/components
- procedures for recording/reporting faults in electrical equipment/components
- techniques/procedures for returning the electrical equipment/components to specification
- adjustments that can be made to electrical equipment/components
- procedures for confirming the electrical equipment/components have been returned to specification
- procedures for recording electrical equipment/component rectifications

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Evidence Guide

EVIDENCE GUIDE	
The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.	
Overview of assessment	A person who demonstrates competency in this unit must be able to fault find/repair electrical equipment/components up to 250 V single phase supply. Competency in this unit cannot be claimed until all prerequisites have been satisfied.
Critical aspects for assessment and evidence required to demonstrate competency in this unit	Assessors must be satisfied that the candidate can competently and consistently perform all elements of the unit as specified by the criteria, including required knowledge, and be capable of applying the competency in new and different situations and contexts.
Context of and specific resources for assessment	This unit may be assessed on the job, off the job or a combination of both on and off the job. Where assessment occurs off the job, that is the candidate is not in productive work, then an appropriate simulation must be used where the range of conditions reflects realistic workplace situations. The competencies covered by this unit would be demonstrated by an individual working alone or as part of a team. The assessment environment should not disadvantage the candidate. This unit could be assessed in conjunction with any other units addressing the safety, quality, communication, materials handling, recording and reporting associated with fault finding/repair of electrical equipment/components up to 250 V single phase supply, or other units requiring the exercise of the skills and knowledge covered by this unit.
Method of assessment	Assessors should gather a range of evidence that is valid, sufficient, current and authentic. Evidence can be gathered through a variety of ways including direct observation, supervisor's reports, project work, samples and questioning. Questioning techniques should not require language, literacy and numeracy skills beyond those required in this unit of competency. The candidate must have access to all tools, equipment, materials and documentation required. The candidate must be permitted to refer to any relevant workplace procedures, product and manufacturing specifications, codes,

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EVIDENCE GUIDE	
	standards, manuals and reference materials.
Guidance information for assessment	

Range Statement

RANGE STATEMENT	
The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.	
Components	Brushes, armatures, windings, relays, programmable controllers or other electronic switching devices
Appropriate fault finding techniques	Testing for voltage, current, frequency, polarity, phase, circuit continuity, insulation resistance, earth continuity etc.
Test equipment	Continuity testers, ammeters, voltmeters, multimeters, tong testers, wattmeters, etc.

Unit Sector(s)

Unit sector	

Co-requisite units

Co-requisite units	

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Co-requisite units		

Competency field

Competency field	Maintenance and diagnostics

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MEM22015A Source and estimate engineering materials requirements

Modification History

Release 1 - New unit. Replaces MEM22006A, but not equivalent.

Unit Descriptor

This unit of competency covers the skills and knowledge required to locate and approve a materials source and estimate materials requirements against a specification or bill of materials for engineering-related operations. This includes consideration of quantities, quality and capacity of suppliers to supply in accordance with a supply plan.

Application of the Unit

The unit applies to sourcing and estimating within an engineering operation or along a value chain and can be applied to individual or team-based work. It is suitable for people working in engineering or related industries in planning, purchasing or quantity surveying functions.

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Not applicable.

Employability Skills Information

This unit contains employability skills.

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element.

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Elements and Performance Criteria

1	Participate in planning and budgeting for materials resourcing in engineering operation or project	1.1	Participate in planning for materials resourcing in the context of operations, project, strategic and business plans and budgets
		1.2	Contribute to management processes, such as costing and value engineering, feasibility studies, cost-benefit and break even analysis, consideration of contract law pertaining to supply arrangements and life cycle costing
		1.3	Evaluate sustainability implications of materials and components being sourced
		1.4	Participate in the selection or development of materials information systems
		1.5	Review suitability of software packages for materials estimation and sourcing and related purposes
2	Estimate quantities	2.1	Consult with operations and project teams regarding their materials needs
		2.2	Estimate quantities against operations or project specifications, drawings and bill of materials documents
3	Contribute to the development of supply chain relations	3.1	Contribute to supply chain requirements, evaluation and management
		3.2	Assist in developing tender and contract documents
4	Locate source and confirm material suppliers	4.1	Locate source and evaluate materials suppliers against specifications
		4.2	Evaluate supply agreements, quality and delivery parameters against operation or project requirements
		4.3	Coordinate approval of samples, testing and certification in accordance with specification requirements
		4.4	Confirm or recommend suppliers according to enterprise procedures

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5	Monitor and review materials and supply chain	5.1	Participate in development of performance indicators or parameters for materials supply chain
		5.2	Consult, negotiate and cooperate with suppliers in relation to supply chain efficiency improvements
		5.3	Provide feedback on quality, efficiency and continuous improvement processes to supply chain members and internal stakeholders
		5.4	Identify and monitor work health and safety (WHS) and regulatory requirements related to materials supply, transport, handling, storage and processing
		5.5	Monitor sustainability of sourced materials and coordinate responses in accordance with sustainability policy and procedures
		5.6	Apply systems thinking, constraints and contingency management, as necessary, and continuous improvement techniques
6	Report and document outcomes	6.1	Provide reports on material sourcing in accordance with procedures
		6.2	Maintain documentation on estimations, sources of supply, supply chain analysis performance, continuous improvement and training, WHS and regulatory requirements, and risk assessment

Required Skills and Knowledge

This section describes the skills and knowledge required for this unit.

Required skills

Required skills include:

- planning for materials resourcing
- estimating quantities, sourcing and evaluating materials suppliers against operations or project, specifications, drawings and bill of materials
- cooperating, communicating and negotiating effectively within team and functional groups, customers and suppliers
- monitoring and evaluating purchasing budget, expenditure and cash flow, sourcing of

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materials, sustainability implications, supply agreements and suppliers for quality, capacity and flexibility, conformance to regulatory requirements and test procedures
- using materials sourcing and planning software packages
- contributing to organisational management processes and materials supply chain management
- developing or using materials supply tender and contract documents
- interpreting materials requirement and purchasing schedule, purchasing budgets, and performance indices for materials supply chain
- coordinating responses to budget and delivery supply threats related to materials purchases
- participating in setting and implementing supplier payment policies
- implementing systems thinking, concurrent engineering, continuous improvement, contingency and constraint management, problem solving and decision making
- determining implications for materials sourcing of WHS, risk management, codes of practice, and sustainability policy and requirements
- reporting and documenting results of evaluations, tender analysis, and so on

Required knowledge

Required knowledge includes:

- planning procedures for materials resourcing in the context of operations, project, strategic and business plans and budgets
- use of systems and software packages to assess materials requirements information, data processing, bill of materials, estimating, supplier database and purchasing budget control
- systems for cost estimation and planning, value engineering, feasibility studies, cost-benefit analysis, life cycle costing and valuation
- supply chain management and value analysis, performance indices or parameters, and monitoring processes
- tender and contract documents, supply agreements, quality and delivery parameters, and terms of payment
- supply chain communications, feedback on quality, supply chain efficiency and continuous improvement processes
- sustainability policy and procedures
- WHS, regulatory and risk management requirements with particular emphasis on handling and use of resources
- WHS and regulatory compliance requirements, material safety data sheets (MSDS), test results, and risk management related to handling and storage
- use of systems thinking, constraints and contingency management, problem solving and decision making, and continuous improvement techniques

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Evidence Guide

The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.

Overview of assessment	A person who demonstrates competency in this unit must be able to source and estimate materials for an engineering operation, including interacting with the supply chain. It includes planning and estimating supplies and integrating purchasing into operations. This includes working individually and as part of a team and recognising and complying with normal control procedures on engineering projects.
Critical aspects for assessment and evidence required to demonstrate competency in this unit	Assessors must be satisfied that the candidate can competently and consistently: • plan for materials resourcing • estimate quantities, source and evaluate materials suppliers • develop tender and contract documents, materials requirement and purchasing schedule, purchasing budgets, and performance indices for materials supply chain • participate, communicate, cooperate, and negotiate with stakeholders on policy and procedures development and implementation • monitor supply of materials against contract requirements and key performance indicators (KPIs) • contribute to organisational management processes, and materials supply chain management.
Context of and specific resources for assessment	• This unit may be assessed on the job, or a combination of both on and off the job. The candidate should have access to a workplace where the engineering-related production or project processes and volume of materials used enable the materials sourcing skills covered by this unit to be realistically assessed. Where part of assessment occurs off the job a simulated working environment must be used where the range of conditions reflects realistic workplace situations. The competencies covered by this unit would be demonstrated by an individual working alone or as part of a team. • Where applicable, reasonable adjustment must be made to work environments and training situations to accommodate ethnicity, age, gender, demographics and disability. • Access must be provided to appropriate learning and/or assessment support when required. Where applicable, physical resources should include equipment modified for people with disabilities.

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Method of assessment	• Assessment must satisfy the endorsed Assessment Guidelines of the MEM05 Metal and Engineering Training Package. • Assessment methods must confirm consistency and accuracy of performance (over time and in a range of workplace relevant contexts) together with application of underpinning knowledge. • Assessment methods must be by direct observation of tasks and include questioning on underpinning knowledge to ensure correct interpretation and application. • Assessment may be applied under project-related conditions (real or simulated) and require evidence of process. • Assessment must confirm a reasonable inference that competency is not only able to be satisfied under the particular circumstance, but is able to be transferred to other circumstances. • Assessment may be in conjunction with assessment of other units of competency where required.
Guidance information for assessment	Assessment processes and techniques must be culturally appropriate and appropriate to the language and literacy capacity of the candidate and the work being performed.

Range Statement

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.

Sustainability implications	Sustainability implications for sourcing and estimating materials in engineering or engineering-related operations may include taking account of: • resource consumption • energy consumption and conservation • processing needs • minimisation and processing of waste • transport • distribution • life cycle • reuse, recycle and disposal
Materials	Materials covered by this unit are those required for the ongoing

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	production or performance of an engineering-related project or operation and must meet an engineering specification and for which the delivery must be coordinated with a production or project schedule. The materials will typically be subject to formal supplier agreements or contracts and delivery is to specified cost, times, quality and quantities
Supplier performance	Supplier performance may include: • cost • delivery reliability • conformance to quality and quantity specifications • conformance to contract and regulatory requirements • participation in efficiency improvement processes • flexibility
Software packages	Software packages may include: • spreadsheets • databases • word processor • presentation • project management and cost control • system control and data acquisition (SCADA), MRPII and enterprise resource planning (ERP)
Systems thinking	Systems thinking refers to the conduct of engineering work in a manner that demonstrates knowledge of how the interaction of different technical systems on equipment, machinery or structures, as well as the skills and techniques of personnel, combine to perform or support engineering-related operations, processes or projects. It embraces determining or establishing how the function of each technical system or component, as well as the skills and techniques of personnel, effects or potentially may effect, outcomes. Systems should be interpreted broadly within the context of the organisation and depending on the project or operation can include equipment, related facilities, material, software, internal services and personnel, and other organisations in the value chain
Constraints and contingencies	Contingencies and constraints may include: • financial • sudden changes to schedules or delivery by a supplier • organisational, procedural or cultural • physical constraints, such as limits to resources, limits to site access or logistical limitations
Continuous improvement	Improvement processes may include techniques, such as: • balanced scorecard

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implementation	• current and future state mapping • measuring performance against benchmarks • process improvement, problem solving and decision making • data management, generation, recording, analysing, storing and use of software • training for improvement systems participation • technical training
WHS, regulatory requirements and enterprise procedures	WHS, regulatory requirements and enterprise procedures may include: • WHS Acts and regulations • relevant standards • codes of practice from Australian and overseas engineering and technical associations and societies • risk assessments • registration requirements • safe work practices • state and territory regulatory requirements
Standards and Codes	Standards and codes refer to all relevant Australian and international standards and applicable codes
MSDS	Organisations using or storing hazardous substances or dangerous goods are required to maintain a MSDS and dangerous goods register. Manufacturers or importers of hazardous substances are obliged to provide an MSDS whenever the substances are first supplied to a customer

Unit Sector(s)

Competency field

Unit sector Management and organisation

Custom Content Section

Not applicable.

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MEM30013A Assist in the preparation of a basic workplace layout

Modification History

Not Applicable

Unit Descriptor

Unit descriptor	This unit covers assisting in the charting and analysis of basic manufacturing operations including assisting in the preparation of workplace layouts.

Application of the Unit

Application of the unit	The unit covers basic principles of ergonomics, productivity improvements and quality procedures and work flow analysis. Work is conducted under supervision. **Band**: **0** **Unit Weight**: **0**

Licensing/Regulatory Information

Not Applicable

Pre-Requisites

Prerequisite units		

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Employability Skills Information

Employability skills	This unit contains employability skills.

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Identify opportunities for workplace layout improvement	1.1. Basic analysis of workplace data is undertaken to determine sources of waste. 1.2. Future capacity requirement is obtained in accordance with policy and procedures. 1.3. Productivity improvement areas are established in accordance with organisational policy and procedures. 1.4. Appropriate productivity measures are established in conjunction with supervisors and other appropriate personnel.
2. Develop basic layout options for workplace improvement	2.1. Operation process charts, flow charts, flow process charts, and string diagrams etc. are used to develop basic layout options. 2.2. Information on ergonomics, health and safety hazards is considered in accordance with policy and procedures. 2.3. Improvements are developed in consultation with users and supervisors and in accordance with policy and procedures. 2.4. Simple economic appraisals for proposed improvements are developed in accordance with

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ELEMENT	PERFORMANCE CRITERIA
	policy and procedures. 2.5. Layout options are referred to a higher authority for approval in accordance with policy and procedures.

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE
This section describes the skills and knowledge required for this unit.
Required skills
Look for evidence that confirms skills in: • communicating • analysing • documenting • reviewing • applying principles of ergonomics • applying productivity principles
Required knowledge

Look for evidence that confirms knowledge of:
• basic knowledge of workplace layout principles including at a basic level the degree to which workplace layout is affected by:
  • engineering processes and systems
  • materials flow patterns
  • types of production plant and machinery
  • materials handling methods
  • unit loads
  • types of production methods
• productivity:
  • definition and measures of productivity
  • factors affecting productivity
  • productivity and quality
  • value adding
• recording techniques:
  • flow charts

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REQUIRED SKILLS AND KNOWLEDGE
• activity relationship charts • outline process charts • flow process charts • multipurpose charts • string diagrams • basic principle of ergonomics • the concept of waste and its application to productivity improvements

Evidence Guide

EVIDENCE GUIDE	
The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.	
Overview of assessment	A person who demonstrates competency in this unit must be able to assist in the design of basic workplace layout.
Critical aspects for assessment and evidence required to demonstrate competency in this unit	Assessors must be satisfied that the candidate can competently and consistently perform all elements of the unit as specified by the criteria, including required knowledge, and be capable of applying the competency in new and different situations and contexts.
Context of and specific resources for assessment	This unit may be assessed on the job, off the job or a combination of both on and off the job. Where assessment occurs off the job, that is the candidate is not in productive work, then an appropriate simulation must be used where the range of conditions reflects realistic workplace situations. The competencies covered by this unit would be demonstrated by an individual working alone or as part of a team. The assessment environment should not disadvantage the candidate. This unit could be assessed in conjunction with any other units addressing the safety, quality, communication, materials handling, recording and reporting associated with assisting in the design of basic workplace layout, or other units requiring the exercise of the skills and knowledge covered by this unit.

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EVIDENCE GUIDE	
Method of assessment	Assessors should gather a range of evidence that is valid, sufficient, current and authentic. Evidence can be gathered through a variety of ways including direct observation, supervisor's reports, project work, samples and questioning. Questioning techniques should not require language, literacy and numeracy skills beyond those required in this unit of competency. The candidate must have access to all tools, equipment, materials and documentation required. The candidate must be permitted to refer to any relevant workplace procedures, product and manufacturing specifications, codes, standards, manuals and reference materials.
Guidance information for assessment	

Range Statement

RANGE STATEMENT	
The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.	
Waste	• Excess production and early production, waiting, materials queuing, not moving, people not working, transporting, double handling, poor process design, inventory, stores, buffers, lot sizes, inefficient performance of a process, reaching, bending, exertion • Making defective items, rework, rejects, unnecessary inspection
Information on ergonomics, **health and safety hazards**	• Standard references including NOHSC guidelines, any relevant Acts and Regulations, information contained in manufacturers' manuals, standard operating procedures • Workplace reports including:, incident reports, commissioned studies, advice from relevant leaders/supervisors/workplace committees

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Unit Sector(s)

Unit sector	

Co-requisite units

Co-requisite units		

Competency field

Competency field	Engineering technician

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MEM30031A Operate computer-aided design (CAD) system to produce basic drawing elements

Modification History

Release 1 - New unit of competency

Unit Descriptor

This unit of competency covers the skills and knowledge required to apply functions of computer-aided design (CAD) software programs that are typically used in the production of detail drawings.

Application of the Unit

This unit is suitable for those working within a CAD or drafting work environment and may be applied across engineering and manufacturing environments. It covers competent use of a CAD program to perform basic drawing tasks used in the development of detail drawings. Drawings may include plans, diagrams, charts, circuits, systems or schematics.

This unit includes using computer equipment and selecting software functions in order to generate basic drawing elements.

Work is conducted under supervision.

Licensing/Regulatory Information

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

Pre-Requisites

Not applicable.

Employability Skills Information

This unit contains employability skills.

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of

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performance is to be consistent with the evidence guide.

Elements and Performance Criteria

1	Confirm drawing requirements	1.1	Confirm purpose, scope, and information and presentation requirements for drawing
		1.2	Review available information relevant to project and work requirements, and identify and address further information needs
		1.3	Identify computing equipment and software used in the organisation
		1.4	Identify work flow and procedures for work supervision
		1.5	Examine requirements for presentation of drawings
2	Identify key features of CAD software	2.1	Describe types of CAD software used for detail drafting, their key features and suitability for producing specific drawing outcomes
		2.2	Describe types of CAD software used for design drafting, their key features and suitability for producing specific drawing outcomes
		2.3	Identify differences in CAD process to generate 2-D drawings and 3-D models, and reasons for each presentation
		2.4	Identify differences in CAD process to generate single and multiple view drawings, and reasons for each presentation
		2.5	Identify CAD software used in the organisation and confirm compatibility with other software programs and peripheral equipment
		2.6	Identify software features for linked specifications, catalogues or materials ordering
3	Access software and set up for	3.1	Open software and navigate organisational filing and library system

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	drawing work	3.2	Identify organisational and software templates and determine uses
		3.3	Identify organisational symbols, codes and standards to be applied in drafting work and how these are accessed and applied
		3.4	Apply workplace procedures to retrieve and manipulate required information and navigate computing technology
		3.5	Set up working environment
4	Produce basic drawing elements	4.1	Use CAD functions to produce basic drawing elements
		4.2	Use editing and transfer tools and methods to modify drawing elements
		4.3	Apply dimensions, text and symbols to drawing elements
		4.4	Import and export files into/out of working space
		4.5	Generate different views and perspectives
		4.6	Organise presentation of work
5	Complete CAD operations	5.1	Save and file drawing elements according to organisational procedures
		5.2	Print drawing elements and evaluate presentation
		5.3	Evaluate work and identify areas for improvement
		5.4	Close applications, perform CAD housekeeping and maintain organisational filing system

Required Skills and Knowledge

Required skills

Required skills include:

- literacy skills sufficient to read instructions for drawings work

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- using computer technologies and navigating software
- numeracy skills sufficient to interpret technical information and determine scaling and layout issues
- navigating software to:
  - manipulate drawing entities
  - modify dimension styles
  - create and use layers
  - manipulate the drawing origin
  - define and utilise symbol libraries
  - utilise grids/grid snaps and object snaps
  - display views at multiple scales
  - add title blocks/frame to layout a drawing for printing
  - prepare advanced drawings in plane orthogonal or equivalent
  - set up prototype drawings
  - define and extract attribute data
  - create bills of materials (BOM) utilising attribute data and third-party application software

Required knowledge

Required knowledge includes:

- general knowledge of different approaches to drawing
- awareness of copyright and intellectual property issues and legislation in relation to drawing
- environmental and occupational health and safety (OHS) issues associated with the tools and materials used for drawing
- quality assurance procedures
- CAD program capabilities and processes

Evidence Guide

The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria required skills and knowledge range statement and the Assessment Guidelines for the Training Package.

Overview of assessment	A person who demonstrates competency in this unit must be able to use CAD software to produce graphics commonly used in drafting work.
Critical aspects for assessment and evidence required to demonstrate competency in this	Assessors must be satisfied that the candidate can competently and consistently perform all elements of the unit as specified by the criteria, including required

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unit	knowledge, and be capable of applying the competency in new and different situations and contexts. Specifically the candidate must be able to: • work within typical site/teamwork structures and methods • apply worksite communication procedures • comply with organisational policies and procedures, including quality requirements • participate in work meetings • comply with quality requirements • use industry terminology • apply appropriate safety procedures • identify drawing work requirements and determine appropriate software functions and features • identify features and uses of CAD software used in detail and design drafting • access and use computing equipment and CAD software functions to produce drawing elements.
Context of and specific resources for assessment	This unit may be assessed on the job, off the job or a combination of both on and off the job. Where assessment occurs off the job, that is the candidate is not in productive work, then an appropriate simulation must be used where the range of conditions reflects realistic workplace situations. The competencies covered by this unit would be demonstrated by an individual working alone or as part of a team. Where applicable, reasonable adjustment must be made to work environments and training situations to accommodate ethnicity, age, gender, demographics and disability. Access must be provided to appropriate learning and/or assessment support when required. Where applicable, physical resources should include equipment modified for people with disabilities. This unit could be assessed in conjunction with any other units addressing the safety, quality, communication, materials handling, recording and reporting associated with drafting or other units requiring the exercise of the skills and knowledge covered by this unit.

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Method of assessment	Assessors should gather a range of evidence that is valid, sufficient, current and authentic. Evidence can be gathered through a variety of ways, including direct observation, supervisor's reports, project work, samples and questioning. Questioning techniques should not require language, literacy and numeracy skills beyond those required in this unit of competency. The candidate must have access to all tools, equipment, materials and documentation required. The candidate must be permitted to refer to any relevant workplace procedures, product and manufacturing specifications, codes, standards, manuals and reference materials.

Range Statement

CAD software	CAD software may include: • AutoCAD • Inventor • Revitt • Solidworks • ProSteel • XSteel • other programs
Key features	Key features may include: • 2-D • 3-D modelling • built-in specifications • file import/export • save • undo • scale
Specific drawing outcomes	Specific drawing outcomes may include • 2-D • 3-D modelling • drawings for specific engineering applications • orthographic/isometric/perspectives/schematics
Basic drawing elements	Basic drawing elements may include: • points, line angles, circles, arcs, planes, figures

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	and solids • squares, rectangles and triangles • bisected lines and dividing lines • polygon, ellipse, spline, dimension and hatch
Editing and transfer tools and methods	Editing and transfer tools and methods may include: • delete, fillet, chamfer, erase, trim/extend, break, undo and redo commands • zooming and panning • moving, copying, rotating and mirroring • polar and rectangular duplication • object snaps • dimensions • selecting entities • dividing • scaling • measuring • grouping

Unit Sector(s)

Drawing, drafting and design

Custom Content Section

Not applicable.

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MSAPMSUP201A Receive or despatch goods

Modification History

Not applicable.

Unit Descriptor

Unit descriptor

This competency covers the handling of materials by an operator as an adjunct to the job of making product. It applies to a limited range of materials. It is NOT intended to be an alternative warehousing competency.

This competency is typically performed by operators working either independently or as part of a work team.

Application of the Unit

Application of this unit

This competency applies to operators who receive, process despatch orders, despatch products/materials and maintain records. The key factors are correctly identifying and selecting the goods to be despatched and ensuring they are despatched to the correct location.

It includes:

- checking order requests/consignment note documentation for products/materials to be despatched
- identifying and selecting the correct products/materials
- organising products/materials to be moved into the right place by the right time, using the appropriate handling equipment
- preparing products/materials for despatch
- completing and checking all documentation
- updating records.
-

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisites

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This unit has **no** prerequisites.

Employability Skills Information

Employability Skills

This unit contains employability skills.

Elements and Performance Criteria Pre-Content

ELEMENT	PERFORMANCE CRITERIA
Elements describe the essential outcomes of a unit of competency	Performance Criteria describe the required performance needed to demonstrate achievement of the Element. Assessment of performance is to be consistent with the Evidence Guide.

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
ELEMENT	Performance Criteria describe the required performance needed to demonstrate achievement of the Element. Assessment of performance is to be consistent with the Evidence Guide.
1. Identify work requirements.	1.1 Read and interpret documentation. 1.2 Identify required schedules for receipt or despatch. 1.3 Identify correct product/material. 1.4 Plan work sequence using workplace and product knowledge. 1.5 Select appropriate materials handling equipment as required. 1.6 Identify OH&S requirements.
2. Move materials into/out of storage or from production.	2.1 Check paperwork and identity of materials. 2.2 Check for completeness and/or damage. 2.3 Take action on non-conforming products/materials. 2.4 Handle and move products/materials into/out of storage safely. 2.5 Store materials safely as necessary.
3. Prepare goods for	3.1 Identify and read workplace procedures for

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ELEMENT ELEMENT	PERFORMANCE CRITERIA Performance Criteria describe the required performance needed to demonstrate achievement of the Element. Assessment of performance is to be consistent with the Evidence Guide.
despatch.	assembling and completing orders. 3.2 Select and check goods for despatch. against product/material knowledge, labels and other identification systems. 3.3 Sort, assemble and consolidate products as necessary. 3.4 Secure order and place in storage areas, in accordance with schedule. 3.5 Check order against despatch schedule and order form.
4. Complete materials movement records.	4.1 Complete materials movement records (in or out). 4.2 Update records as required. 4.3 Complete other paperwork and records as required.

Required Skills and Knowledge

This describes the essential skills and knowledge and their level required for this unit.

Knowledge and understanding of the materials handling processes and requirements sufficient to recognise non-standard situations and then determine appropriate action which is consistent with operating guidelines is required.

Knowledge is required of the product/material, its properties and uses sufficient for correct receipt, storage and despatching. Knowledge of the relevant OHS and environmental requirements is required along with an ability to implement them in a manner which is relevant to the materials handled.

Competence includes the ability toapply and/or describe:

- product/material knowledge
- inventory and ordering systems
- transport requirements and restrictions for products/materials
- correct OHS procedures
- storage/handling principles and procedures
- material hazard properties and their implications for safe handling and storage
- significance of material to customers; transport requirements and restrictions for materials
- plan own work, including predicting consequences and identifying improvements

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- identify and describe own role and role of others involved directly in the processing of orders and despatching of products
- use PPE, safely handle products and materials, read relevant safety information and apply safety precautions appropriate to the task
- distinguish between causes of problems such as product requirements and job priority as relevant to the practical completion of the job.

Language, **literacy and numeracy requirements**

This unit requires the ability to read and interpret typical product specifications, job sheets, procedures, material labels and safety information as provided to operators.

Writing is required to the level of completing workplace forms.

Basic numeracy is required, e.g. to determine that two 25 kg bags are needed to make up a requirement for 50 kg.

Evidence Guide

The Evidence Guide provides advice on assessment and must be read in conjunction with the Performance Criteria, required skills and knowledge, the Range Statement and the Assessment Guidelines for this Training Package.

Overview of assessment

A holistic approach should be taken to the assessment.

Assessors must be satisfied that the person can consistently perform the unit as a whole, as defined by the Elements, Performance Criteria and skills and knowledge.

Critical aspects for assessment and evidence required to demonstrate competency in this unit

It is essential that competence is demonstrated in the ability torecognise and analyse potential situations requiring action and then in implementing appropriate corrective action.

Consistent performance should be demonstrated. For example, look to see that:

- packaging standards are met consistently
- procedures and work instructions are read and interpreted correctly
- potential problems are recognisedand action is taken (ie, the problem is fixed or reported)
- action is taken to ensure problems are dealt with in a timely manner
- problems caused by product/material issues are recognised and an appropriate contribution made to a solution
- items initiated are followed through until final resolution has occurred.
- effective communication between team members, supervisors and other staff is maintained.

Competence must be demonstrated in the operation of all ancillary equipment to the level required for this competency unit.

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Assessment method and context

Assessment will occur using industrial equipment and will be undertaken in a work-like environment.

Competence in this unit may be assessed:

- by observation over time on a processing plant
- by using a suitable simulation and/or a range of case studies/scenarios
- through a combination of these techniques.

In all cases it is expected that practical assessment will be combined with targeted questioning to assess the underpinning knowledge and theoretical assessment will be combined with appropriate practical/simulation or similar assessment. Assessors need to be aware of any cultural issues that may affect responses to questions.

Assessment processes and techniques must be culturally appropriate and appropriate to the oracy, language and literacy capacity of the assessee and the work being performed.

Specific resources for assessment

This section should be read in conjunction with the Range Statement for this unit of competency. Resources required include suitable access to an operating plant or equipment that allows for appropriate and realistic simulation. A bank of case studies/scenarios and questions will also be required to the extent that they form part of the assessment method. Questioning may take place either in the workplace, or in an adjacent, quiet facility such as an office or lunchroom. No other special resources are required.

Access must be provided to appropriate learning and/or assessment support when required. Where applicable, physical resources should include equipment modified for people with disabilities.

Range Statement

RANGE STATEMENT

The Range Statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Add any essential operating conditions that may be present with training and assessment depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts.

Where reference is made to industry codes of practice, and/or Australian/international standards, the latest version must be used.

Context

This competency covers the handling of a limited range of products/materials and their moving into and out of a plant/storage. It is NOT intended for people who, as a major function, operate a warehouse. The appropriate Transport and Distribution competencies should be used here.

This competency may require the operation of forklift trucks or other regulated load shifting devices which are NOT included in this competency, and so would be a co-requisite competency.

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The terms order request, documentation, labels, transportation requirements 'paperwork' and 'records' mean any and all relevant information and data whether it is manual, paper based, electronic or verbal, either in person or by phone/radio.

This competency does not imply that moving materials into and from storage/plant are conducted equally, or even using similar techniques. Customers may be internal or external and the loading/unloading of products/materials may mean getting them onto/off a truck or simply from/to the next department.

Procedures

All operations are performed in accordance with procedures.

Procedures include all relevant workplace procedures, work instructions, temporary instructions and relevant industry and government codes and standards.

Tools and equipment

This competency includes use of equipment and tools such as:

- mobile plant/fork lifts
- manual handling equipment
- hand tools
- shrink wrappers
- tape machine labellers
- loose bulk packing equipment.
- computers, bar code readers
- bag filling equipment
- pallets
- wrapping machines
- personal protective equipment (PPE)
- distribution equipment, including A-frames, stillages, containers, elevated platforms and communication equipment.

Hazards

Typical hazards include:

- inappropriate movements and postures
- physical and atmospheric hazards of materials
- height or depth of storage receptacles
- stationary and moving machinery, parts or components
- noise, light, energy sources
- humidity, air temperature, radiant heat
- manual handling hazards.

Problems

'Respond to routine problems' means 'apply known solutions to a limited range of predictable problems'. Typical process and product problems may include:

- special storage requirements including moisture and contamination control
- handling of incomplete loads (either in or out)

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- handling of materials which do not meet specifications
- conflicting priorities
- incomplete or incorrect paperwork.
- product requirements
- job priority
- product/material variations.

Variables

Key variables to be monitored include:

- types of products or materials to be received/despatched
- handling heights
- types of equipment
- types of workplace documentation
- atmospheric conditions.
-

Unit Sector(s)

Not applicable.

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MSFFM1002 Operate basic woodworking machines

Modification History

Release 1 - New unit of competency

Application

This unit of competency covers operating basic woodworking machines used for sawing, planing, sanding and drilling in the production of furniture. It applies to a VET in Schools or pre-vocational program for new entrants to the furnishing industry.

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

Pre-requisite Unit

Competency Field

Unit Sector

Furniture Making

Elements and Performance Criteria

Elements describe the essential outcomes.		Performance criteria describe the performance needed to demonstrate achievement of the element.	
1	Prepare for work	1.1	Work instructions are used to identify job requirements, including quality, materials, equipment, and quantities
		1.2	Work health and safety (WHS) requirements, including ventilation requirements and personal protection needs, are observed throughout the work
		1.3	Material for machining is selected and inspected for quality
		1.4	Machines, cutting tools and jigs are identified and checked for safe and effective operation
2	Operate machines	2.1	Safety equipment, including emergency stops, gauges, guards and controls are checked

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		2.2 Machine start-up procedure is carried out in accordance with manufacturer instructions
		2.3 Material is fed into machine in accordance with manufacturer instructions, safe handling procedures and standard workplace operating procedures
		2.4 Machine is operated in accordance with its designed capacity and purpose, tooling requirements and to manufacturer recommendations
		2.5 Machine operation is monitored to ensure product quality and output
		2.6 Waste quantities are minimised
		2.7 Items that do not meet quality requirements are recycled or discarded according to workplace procedures
		2.8 Problems with the required work and/or the operation of the machine are identified and reported to appropriate persons
3	Clean up work area and maintain equipment	3.1 Material that can be re-used is collected and stored
		3.2 Waste and scrap are removed following workplace procedures
		3.3 Equipment and work area are cleaned and inspected for serviceable condition in accordance with workplace procedures
		3.4 Unserviceable equipment is reported in accordance with workplace 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

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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.

Basic woodworking machines include:

- cross cut saw
- rip saw
- band saw
- panel saw
- surface planer (buzzer/jointer)
- panel planer (thicknesser)
- bobbin sander
- disc sander
- belt sander (finisher) – stroke and linisher
- vertical drill press
- horizontal borer (single bit)

Tasks include:

- machine face
- machine edge
- off fence ripping
- freehand ripping
- freehand curve cutting
- parallel rip (oversize by 5 mm+)
- docking:
  - (oversize + 20 mm)
  - (accurate to +/- 0.25 mm)
  - square (no tolerance)
- cut flat panel board (off rip fence using scribe saw)
- cut flat panel board (off cross-cut fence using scribe saw)
- parallel plane width
- parallel plane thickness
- sand concave surface
- sand straight surface
- sand end grain and outside curve
- sand flat surfaces
- hinge boring
- drill holes to pre-determined depths vertically, selecting and replacing drill bits as required
- changing belts and blades
- drill holes to pre-determined depths horizontally (and to create a mortise)

Unit context includes:

- WHS requirements, including legislation, building codes, material safety management systems, hazardous substances and dangerous goods code, and local safe operating

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	procedures • work is carried out in accordance with legislative obligations, environmental legislation, relevant health regulations, manual handling procedures and organisation insurance requirements • competency may be demonstrated in workplaces involved in the manufacture of solid timber furniture, domestic furniture, commercial furniture, kitchen and bathroom cabinets and/or furniture components
Materials to be machined include:	• solid timber and manufactured board
Personal protective equipment includes:	• that prescribed under legislation, regulations and enterprise policies and practices
Information and procedures include:	• workplace procedures relating to the use of tools and equipment • work instructions, including job sheets, cutting lists, plans, drawings and designs • workplace procedures relating to reporting and communication • manufacturer specifications and operational procedures

Unit Mapping Information

Supersedes and is equivalent to LMFFM1002B Operate basic woodworking machines.

Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=0601ab95-583a-4e93-b2d4-cfb27b03ed73

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Assessment Requirements for MSFFM1002 Operate basic woodworking machines

Modification History

Release 1 - New unit of competency

Performance Evidence

- Identify work requirements and materials used in the work process
- Apply safe handling requirements for equipment, products and materials, including use of personal protective equipment
- 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
- Operate and monitor the machines, including changing belts, blades and drill bits as required, and complete the tasks identified in the Range of Conditions for:
  - one (1) saw
  - one (1) planer
  - one (1) drill
  - one (1) sander
- 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
- Minimise wastage of resources, including materials, time and money
- Work with others and in a team by recognising dependencies and using cooperative approaches to optimise work flow and productivity

Knowledge Evidence

- Characteristics, uses and limitations of woodworking machines
- General workplace quality standards and procedures
- Workplace safety policies and procedures
- Procedures for reporting machinery faults and material defects

Assessment Conditions

- Assessors must:
  - hold training and assessment competencies as determined by the National Skills Standards Council (NSSC) or its successors

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  - 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 basic woodworking machinery, standard operating procedures and materials.

Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=0601ab95-583a-4e93-b2d4-cfb27b03ed73

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MSFFM2001 Use furniture making sector hand and power tools

Modification History

Release 1 - New unit of competency

Application

This unit of competency covers using hand and power tools in applications relating to furniture making.

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

Pre-requisite Unit

Competency Field

Unit Sector

Furniture Making

Elements and Performance Criteria

Elements describe the essential outcomes.		Performance criteria describe the performance needed to demonstrate achievement of the element.	
1	Identify hand and power tools	1.1	Types of hand and power tools and their functions are identified
		1.2	Work health and safety (WHS) requirements, including personal protection needs, are observed throughout the work
		1.3	Sources of power supply are recognised
2	Select and use hand tools	2.1	Hand tools selected are consistent with needs of the job, checked for serviceability and safety, and any faults reported to supervisor
		2.2	Equipment is selected to hold or support material for hand tools application where applicable

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		2.3	Material is located and held in position for hand tool application
		2.4	Hand tools are safely and effectively used according to their intended use and safely located when not in immediate use
3	Select and use power tools	3.1	Power tools are selected consistent with needs of the job in accordance with conventional work practice, are visually checked for serviceability and safety in accordance with WHS requirements, and any faults reported to supervisor
		3.2	Equipment is selected to hold or support materials for power tool application as applicable
		3.3	Material is located and held in position for power tool application as applicable
		3.4	Power tools are safely and effectively used in application processes and safely located when not in use
4	Clean up work area and tools	4.1	All tools are cleaned, maintained and stored
		4.2	Equipment is cleaned, maintained and stored
		4.3	Work area is cleared and waste removed

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.

Hand tools for furniture	• hand planes • chisels

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making include:	• hand saws • spokeshave • hammers (claw, Warrington, tack and ball pein) • mallet • marking-out tools • files • rasps • scraper • screwdrivers and hand drills
Power tools for furniture making include:	• drop saw • circular power saw • planer • drill • jig saw • router • trimmer • biscuit machine • brad/nail and staple gun and sanders
Unit scope includes:	• individuals to demonstrate skill, accuracy and dexterity in the application of tools to perform work tasks which should include dressing materials, cutting joints, finishing surfaces, cutting straight and compound angles, jointing materials, edge trimming and the basic sharpening of cutting tools
Unit context includes:	• WHS requirements, including legislation, building codes, material safety management systems, hazardous substances and dangerous goods code, and local safe operating procedures • work is carried out in accordance with legislative obligations, environmental legislation, relevant health regulations, manufacturer' s specifications, manual handling procedures and organisation insurance requirements
Fault reporting includes:	• verbal or written reporting
Personal protective equipment includes:	• that prescribed under legislation, regulations and enterprise policies and practices
Information and procedures include:	• workplace procedures relating to the use of tools and equipment • work instructions, including job sheets, cutting lists, plans, drawings and designs • workplace procedures relating to reporting and communication • manufacturer specifications and operational procedures

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Unit Mapping Information

Supersedes and is equivalent to LMFFM2001B Use furniture making sector hand and power tools.

Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=0601ab95-583a-4e93-b2d4-cfb27b03ed73

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Assessment Requirements for MSFFM2001 Use furniture making sector hand and power tools

Modification History

Release 1 - New unit of competency

Performance Evidence

- Locate and apply relevant information related to hand and power tools
- Apply safe handling requirements for equipment, products and materials, including use of personal protective equipment
- Follow work instructions, operating procedures and inspection practices to:
  - minimise the risk of injury to self or others
  - prevent damage to goods, tools, equipment or products
  - maintain required production output and product quality
- Adopt and carry out correct procedures prior to and during use of the range of hand and power tools stipulated in the Range of Conditions
- Carry out operator maintenance on hand and power tools, including the grinding and sharpening of:
  - chisels
  - hard plane blades or irons
  - drill bits
- Use mathematical ideas and techniques to correctly complete measurements 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
- Minimise waste of resources, including materials, time and money
- Work with others and in a team by recognising dependencies and using cooperative approaches to optimise work flow and productivity

Knowledge Evidence

- Types, characteristics, uses, limitations and maintenance requirements of hand tools commonly used in furniture production
- Types, characteristics, uses, limitations and maintenance requirements of power tools commonly used in furniture production
- Workplace safety requirements and WHS legislation
- Work flow within the workplace

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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 furniture making sector hand and power tools, and materials used in the manufacturing and/or installation of furnishing products.

Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=0601ab95-583a-4e93-b2d4-cfb27b03ed73

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MSFFM2002 Assemble furnishing components

Modification History

Release 1 - New unit of competency

Application

This unit of competency covers assembling of timber components to produce furniture frames or furniture.

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

Pre-requisite Unit

Competency Field

Unit Sector

Furniture Making

Elements and Performance Criteria

Elements describe the essential outcomes.		Performance criteria describe the performance needed to demonstrate achievement of the element.
1	Prepare for assembly	1.1 Work instructions are used to determine job requirements, including design, tolerances, process, materials, finish and quantity
		1.2 Assembly sequence is planned
		1.3 Procedures are determined for checking quality at each stage of the process
		1.4 Work health and safety (WHS) requirements, including personal protection needs, are observed throughout the work
		1.5 Suitable work area is selected for the task
		1.6 Tools and equipment suitable to the fixing method are

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			selected and checked for safe operation
		1.7	Components, hardware, fittings and attachments are collected
		1.8	Fixing and joining devices are selected in line with work instructions and type of materials to be joined
		1.9	Jigs are selected and checked for suitability of purpose
2	Assemble components	2.1	Components are laid out and joined using jigs and appropriate fastenings
		2.2	Hand and/or power tools and equipment are used as required
		2.3	Components are prepared, assembled and fitted in accordance with specifications
		2.4	Assembled component is checked for compliance with specifications
		2.5	Components which do not meet quality specifications are repaired or tagged for further processing or recycling/disposal
		2.6	Finished products are organised and stored in holding area
3	Clean work area and maintain equipment	3.1	Faulty and/or defective equipment is tagged and reported in accordance with workplace procedures
		3.2	Waste and scrap are removed following workplace procedures
		3.3	Tools and equipment used are cleaned, inspected for serviceable condition and stored appropriately in accordance with workplace procedures
		3.4	Equipment and work area clean-up is maintained in accordance with workplace procedures

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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.

Furnishing components include:	• carcasses • doors • drawers • frames • shelves • ends • tops
Unit context includes:	• WHS requirements, including legislation, building codes, material safety management systems, hazardous substances and dangerous goods code and local safe operating procedures • 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 some discretion, judgement and problem solving in the assembly of furnishing components • competency may be demonstrated in workplaces involved in the manufacture of solid timber furniture, domestic furniture, commercial furniture, kitchen and bathroom cabinets and/or furniture components
Tools and equipment include:	• measuring tapes or rulers • hammers • mallets • squares • bevels • chisels • planes

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	• hand saws • power saws • power drills/screwdrivers • clamps/cramps • screwdrivers and/or spanners • pincers • pneumatic tools, compressor and spray equipment
Materials to be used include:	• timber • manufactured board • glues • screws • nails • dowels and knock-down fittings
Assembled component checking is to cover:	• squareness, alignment and wind • hardware, fittings and attachments • functionality and tolerances • conformity to work instruction and quality requirements
Storage requirements include:	• ensuring that there is no obstruction to traffic • components are not damaged in storage • incompatible items are not stored together • products are arranged to match the sequence of work
Personal protective equipment includes:	• that prescribed under legislation, regulations and enterprise policies and practices
Information and procedures include:	• workplace procedures relating to the use of tools and equipment • work instructions, including job sheets, cutting lists, plans, drawings and designs • manufacturer specifications and operational procedures

Unit Mapping Information

Supersedes and is equivalent to LMFFM2002B Assemble furnishing components.

Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=0601ab95-583a-4e93-b2d4-cfb27b03ed73

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Assessment Requirements for MSFFM2002 Assemble furnishing components

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
- Follow work instructions, operating procedures and inspection practices to:
  - minimise the risk of injury to self or others
  - prevent damage to goods, equipment and products
  - maintain required production output and product quality
- Assemble at least four (4) furnishing components from the list in the Range Statement
- Use mathematical ideas and techniques to correctly complete measurements 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
- Minimise wastage of resources, including materials, time and money
- Work with others and in a team by recognising dependencies and using cooperative approaches to optimise work flow and productivity

Knowledge Evidence

- Types, characteristics, uses and limitations of common furnishing components
- Interpretation of basic furniture plans
- Identification of hand and/or power tools, materials, equipment, processes and procedures
- Work flow in relation to furniture production

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.

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- 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 tools, equipment and materials required to assemble furnishing components.

Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=0601ab95-583a-4e93-b2d4-cfb27b03ed73

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MSFFM2003 Select and apply hardware

Modification History

Release 1 - New unit of competency

Application

This unit of competency covers selecting and applying hardware to new and refurbished furniture.

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

Pre-requisite Unit

Competency Field

Unit Sector

Furniture Making

Elements and Performance Criteria

Elements describe the essential outcomes.		Performance criteria describe the performance needed to demonstrate achievement of the element.	
1	Plan and prepare work	1.1	Work instructions are used to determine job requirements, including design, colour, finish process and required hardware quality
		1.2	Work health and safety (WHS) requirements, including personal protection needs, are observed throughout the work
		1.3	Types of hardware are identified and selected for the work
		1.4	Tools, equipment and accessories for application are identified and checked for safe and effective operation
		1.5	Surfaces are cleaned and prepared to enable accurate colour matching

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2	Apply and/or fit and finish	2.1	Hardware items are laid out/placed in the required design
		2.2	Machinery is used in accordance with workplace procedures, including use of personal protective equipment
		2.3	Joining/securing process is undertaken according to workplace procedures
		2.4	Adhesives are applied according to workplace procedures and/or manufacturer instructions
		2.5	Work is checked against required quality standards
3	Finalise operation and maintain equipment	3.1	Work area is cleaned, hand and/or power tools and equipment are cleaned, maintained and stored in accordance with workplace procedures
		3.2	Machinery is cleaned and left in a safe mode
		3.3	Faulty and/or defective equipment is tagged and reported in accordance with workplace practices
		3.4	Unused hardware is collected and stored for re-use or disposal following workplace procedures
		3.5	Waste and scrap materials are dealt with following workplace 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.

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Hardware includes:	• hinges • handles • drawer-runners • metal drawer systems • sliding rail systems • rotating storage systems and slide-out storage systems
Unit context includes:	• WHS requirements, including legislation, building codes, material safety management systems, hazardous substances and dangerous goods code, and local safe operating procedures • 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 some discretion, judgement and problem solving in selecting and applying hardware • competency may be demonstrated in workplaces involved in the manufacture of solid timber furniture, domestic furniture, commercial furniture, kitchen and bathroom cabinets and/or furniture components
Tools and equipment include:	• measuring tapes or rulers • levelling devices • hammers • mallets • squares • bevels • chisels • planes • hand saws • power saws • power drills/screwdrivers • pneumatic tools, compressor and spray equipment • clamps • screwdrivers • pincers
Materials include:	• timber • manufactured board • hardware consumables • cleaning chemicals and materials
Personal protective equipment includes:	• that prescribed under legislation, regulations and enterprise policies and practices

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Information and procedures include:	• workplace procedures relating to the use of tools and equipment • work instructions, including job sheets, cutting lists, plans, drawings and designs • workplace procedures relating to reporting and communication • manufacturer specifications and operational procedures

Unit Mapping Information

Supersedes and is equivalent to LMFFM2003B Select and apply hardware.

Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=0601ab95-583a-4e93-b2d4-cfb27b03ed73

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Assessment Requirements for MSFFM2003 Select and apply hardware

Modification History

Release 1 - New unit of competency

Performance Evidence

- Interpret work order and locate relevant information
- Apply safe handling requirements for equipment, products and materials, including use of personal protective equipment
- Follow work instructions, operating procedures and inspection practices to:
  - prevent damage to goods, equipment and products
  - maintain required production output and product quality
  - minimise the risk of injury to self or others
- Select and apply/fit six (6) different items of hardware
- 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
- Minimise wastage of resources, including materials, time and money
- Work with others and in a team by recognising dependencies and using cooperative approaches to optimise work flow and productivity

Knowledge Evidence

- Types, characteristics, uses and limitations of hardware
- Interpretation of plan representation of furniture design
- Preparation of drawings/set-outs
- Identification of hand and/or power tools, materials, equipment, processes and procedures
- Work flow in relation to furniture production

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

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    - 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 plans, hand and/or power tools, equipment, hardware materials and woodworking machinery.

Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=0601ab95-583a-4e93-b2d4-cfb27b03ed73

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MSFFM2005 Join solid timber

Modification History

Release 1 - New unit of competency

Application

This unit of competency covers joining solid timber required for the manufacture of solid timber flat surfaces.

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

Pre-requisite Unit

Competency Field

Unit Sector

Furniture Making

Elements and Performance Criteria

Elements describe the essential outcomes.	Performance criteria describe the performance needed to demonstrate achievement of the element.
1 Prepare the work	1.1 Work instructions are used to determine job requirements, including process, materials, finish and quantity
	1.2 Work sequence is planned
	1.3 Procedures are determined for checking quality at each stage of the process
	1.4 Work health and safety (WHS) requirements, including personal protection needs, are observed throughout the work
	1.5 Suitable work area is selected for the task
	1.6 Tools and equipment suitable for application are identified and checked for safe and effective operation

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2	Lay out and prepare materials	2.1	Timbers are selected and checked for defects following work instructions
		2.2	Suitable joining processes are selected and prepared
		2.3	Timbers are prepared for joining and laid out
3	Join timber	3.1	Timbers are measured, marked and cut to size
		3.2	Machinery is used in accordance with workplace procedures, including use of personal protective equipment
		3.3	Adhesives are applied according to workplace procedures and/or manufacturer instructions
		3.4	Final trim and finishing are completed to specifications
		3.5	Work is checked against required quality standards
4	Finalise operation and maintain equipment	4.1	Work area is cleaned, hand and/or power tools and equipment are cleaned, maintained and stored in accordance with workplace procedures
		4.2	Machinery is cleaned and left in a safe mode
		4.3	Faulty and/or defective equipment is tagged and reported in accordance with workplace practices
		4.4	Off-cuts and unused materials are collected and stored for re-use or disposal following workplace procedures
		4.5	Waste and scrap materials are dealt with following workplace 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

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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.

Edge joining methods include:	• butt and dowel • moulded edge joint (finger-joint, tongue in groove and zig-zag) • biscuit joint • slip-tongue joint
Unit context includes:	• WHS requirements, including legislation, building codes, material safety management systems, hazardous substances and dangerous goods code, and local safe operating procedures • 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 some discretion, judgement and problem solving in joining solid timber • competency may be demonstrated in workplaces involved in the manufacture of solid timber furniture, domestic furniture, commercial furniture, kitchen and bathroom cabinets and/or furniture components
Machines include:	• panel saw • cross-cut saw • rip saw • surface planers • panel planer • spindle moulder • sanders and vertical and horizontal drills
Tools and equipment include:	• measuring tapes or rulers • hammers • mallets • squares • bevels • chisels • planes • hand saws • power saws • power drills • biscuit machines • pneumatic tools, compressor and spray equipment • dowel jigs • hoses

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Materials include:	• clamps and pincers • adhesives • abrasives and cleaning materials
Personal protective equipment includes:	• that prescribed under legislation, regulations and enterprise policies and practices
Information and procedures include:	• workplace procedures relating to the use and operation of tools and equipment • workplace instructions, including job sheets, plans, drawings and designs • workplace procedures relating to reporting and communications • manufacturer instructions for the use of equipment and materials

Unit Mapping Information

Supersedes and is equivalent to LMFFM2005B Join solid timber.

Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=0601ab95-583a-4e93-b2d4-cfb27b03ed73

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Assessment Requirements for MSFFM2005 Join solid timber

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
- Follow work instructions, operating procedures and inspection practices to:
  - minimise the risk of injury to self and others
  - prevent damage to goods, equipment and products
  - maintain required production output and product quality
- Join at least four (4) solid timber tops of a minimum of three (3) sections and using a minimum of four (4) different edge joining methods
- Use mathematical ideas and techniques to correctly complete measurements, calculate area and estimate material
- 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
- Minimise wastage of resources, including materials, time and money
- Work with others and in a team by recognising dependencies and using cooperative approaches to optimise work flow and productivity

Knowledge Evidence

- Types, characteristics (including cupping, expansion, twisting, bowing, spring and grain direction), uses and limitations of timbers
- Interpretation of plan representation of furniture design
- Joining techniques and their effect on timbers
- Types of sawing methods, including back sawn and quarter sawn, and the impact of these on joining
- Preparation of drawings/set-outs
- Identification of hand and/or power tools, materials, equipment, processes and procedures
- Work flow in relation to furniture production

Assessment Conditions

- Assessors must:
  - hold training and assessment competencies as determined by the National Skills Standards Council (NSSC) or its successors

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  - 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 plans, hand and/or power tools, equipment, joining and finishing materials and woodworking machinery.

Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=0601ab95-583a-4e93-b2d4-cfb27b03ed73

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MSFFM3021 Set up, operate and maintain computer numerically controlled (CNC) sizing machines

Modification History

Release 1 - New unit of competency

Application

This unit of competency covers setting up, operating and maintaining CNC sizing machines to produce furniture or components.

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

Pre-requisite Unit

Competency Field

Unit Sector

Furniture Making

Elements and Performance Criteria

Elements describe the essential outcomes.		Performance criteria describe the performance needed to demonstrate achievement of the element.
1	Prepare for work	1.1 Work instructions are used to determine job requirements, including design, quality, materials, equipment and quantities
		1.2 Work health and safety (WHS) requirements, including personal protection needs, are observed throughout the work
		1.3 Material for machining is selected and inspected for appropriate quality
		1.4 Procedures are determined for minimising waste material
		1.5 Procedures are identified for maximising energy efficiency while completing the job

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2	Set up machines	2.1	CNC program is set to job requirements
		2.2	Safety equipment, including emergency stops, gauges, guards and controls are checked
		2.3	Machine settings and adjustments are made in accordance with job requirements and machine and tool manufacturer instructions
		2.4	Machines, cutting tools and jigs are checked for safe and effective operation
		2.5	Trial runs are conducted to check machine operation and quality of finished work
		2.6	Final adjustments are made to CNC programs and equipment according to workplace procedures
3	Operate machines	3.1	Machines are operated and monitored to ensure product quality and output
		3.2	Waste quantities are checked and minimised
		3.3	Problems with the required work are identified and reported to appropriate persons
		3.4	Items that do not meet quality requirements are repaired, recycled or discarded according to workplace procedures
		3.5	Any authorised changes in working procedures are followed
4	Finalise operation and maintain equipment	4.1	Work area is cleaned, hand and/or power tools and equipment are cleaned, maintained and stored in accordance with workplace procedures
		4.2	Machinery is cleaned and left in a safe mode
		4.3	Faulty and/or defective equipment is tagged and reported in accordance with workplace practices
		4.4	Unused hardware is collected and stored for re-use or disposal following workplace procedures
		4.5	Waste and scrap materials are dealt with following workplace procedures

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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.

CNC sizing machines include:	• CNC beam saws • double end profiling machines
Unit scope includes:	computer programming skills reading and interpreting drawings stock control setting cutting speeds computer-aided machining operations saw and tool maintenance
Materials to be sized include:	• solid timber • manufactured board • laminate • solid synthetic materials and plastics
Unit context includes:	• WHS requirements, including legislation, building codes, material safety management systems, hazardous substances and dangerous goods code, and local safe operating procedures • 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 some discretion, judgement and problem solving in the set up and operation of machines • competency may be demonstrated in workplaces involved in the manufacture of solid timber furniture, domestic furniture, commercial furniture, kitchen and bathroom cabinets and/or furniture components

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Tools include:	• machine-specific tools • screwdrivers • hammers • spanners
Personal protective equipment includes:	• that prescribed under legislation, regulations and enterprise policies and practices
Information and procedures include:	• workplace procedures relating to the use of tools and equipment • work instructions, including job sheets, cutting lists, plans, drawings and designs • workplace procedures relating to reporting and communication • manufacturer specifications and operational procedures

Unit Mapping Information

Supersedes and is equivalent to LMFFM3030B Set up, operate and maintain CNC sizing machines.

Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=0601ab95-583a-4e93-b2d4-cfb27b03ed73

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Assessment Requirements for MSFFM3021 Set up, operate and maintain computer numerically controlled (CNC) sizing machines

Modification History

Release 1 - New unit of competency

Performance Evidence

- Locate, interpret 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 practices to:
  - minimise the risk of injury to self or others
  - prevent damage to goods, equipment or products
  - maintain required production output and product quality
- Identify, set up and operate CNC sizing equipment, including the use of safety cut-outs and guards, to produce a range of complex cutting patterns
- Conduct operator maintenance on the machine and related equipment
- 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
- Minimise wastage of resources, including materials, time and money
- Work with others and in a team by recognising dependencies and using cooperative approaches to optimise work flow and productivity

Knowledge Evidence

- Types, characteristics, uses and limitations of CNC sizing machines
- CNC theory, practices and techniques
- Characteristics of materials used and uses of products produced
- Work flow processes
- Procedures for reporting materials, product or equipment faults

Assessment Conditions

- Assessors must:
  - hold training and assessment competencies as determined by the National Skills Standards Council (NSSC) or its successors

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  - 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 CNC controlled equipment, standard operating procedures and unprocessed materials.

Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=0601ab95-583a-4e93-b2d4-cfb27b03ed73

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MSFFM3022 Set up, operate and maintain computer numerically controlled (CNC) machining and processing centres

Modification History

Release 1 - New unit of competency

Application

This unit of competency covers setting up, operating and maintaining CNC machining and processing centres to produce furniture or components.

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

Pre-requisite Unit

Competency Field

Unit Sector

Furniture Making

Elements and Performance Criteria

Elements describe the essential outcomes.		Performance criteria describe the performance needed to demonstrate achievement of the element.
1	Prepare for work	1.1 Work instructions are used to determine job requirements, including design, quality, materials, equipment and quantities
		1.2 Work health and safety (WHS) requirements, including personal protection needs, are observed throughout the work
		1.3 Material for machining is selected and inspected for appropriate quality
		1.4 Procedures are determined for minimising waste material
		1.5 Procedures are identified for maximising energy efficiency while completing the job

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2	Set up for machining and processing	2.1	CNC program is set to job requirements
		2.2	Safety equipment, including emergency stops, gauges, guards and controls are checked
		2.3	Machining and processing settings and adjustments are made in accordance with job requirements and machining and processing and tool manufacturer instructions
		2.4	Machining and processing, cutting tools and jigs are checked for safe and effective operation
		2.5	Trial runs are conducted to check machining and processing operation and quality of finished work
		2.6	Final adjustments are made to CNC programs and equipment according to workplace procedures
3	Operate machining and processing centres	3.1	Machining and processing centres are operated and monitored to ensure product quality and output
		3.2	Waste quantities are checked and minimised
		3.3	Problems with the required work are identified and reported to appropriate persons
		3.4	Items that do not meet quality requirements are repaired, recycled or discarded according to workplace procedures
		3.5	Any authorised changes in working procedures are followed
4	Finalise operation and maintain equipment	4.1	Work area is cleaned, hand and/or power tools and equipment are cleaned, maintained and stored in accordance with workplace procedures
		4.2	Machinery is cleaned and left in a safe mode
		4.3	Faulty and/or defective equipment is tagged and reported in accordance with workplace practices
		4.4	Unused hardware is collected and stored for re-use or disposal following workplace procedures
		4.5	Waste and scrap materials are dealt with following workplace procedures

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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.

CNC machining and processing centres include	• a three axis machining centre • multi-tasking machining centres • flat-bed routers and mortise
Materials to be machined and processed include:	• solid timber • manufactured board
Unit scope includes:	• reading and interpreting drawings • selecting and installing tooling • setting jigs and fixtures • programming (sub-programs and parametrics) • performance of computer-aided design (CAD)/computer-aided manufacture (CAM) functions • downloading and storage of data to complete detailed profiling • other specified operations
Unit context includes:	• WHS requirements, including legislation, building codes, material safety management systems, hazardous substances and dangerous goods code, and local safe operating procedures • 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 some discretion, judgement and problem solving in the set up and operation of machining and processing centres • competency may be demonstrated in workplaces involved in the manufacture of solid timber furniture, domestic

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	furniture, commercial furniture, kitchen and bathroom cabinets and/or furniture components
Tools and equipment include:	• stand-alone or integral computing systems • machine-specific tools
Personal protective equipment includes:	• that prescribed under legislation, regulations and enterprise policies and practices
Information and procedures include:	• workplace procedures relating to the use of tools and equipment • work instructions, including job sheets, cutting lists, plans, drawings and designs • workplace procedures relating to reporting and communication • manufacturer specifications and operational procedures

Unit Mapping Information

Supersedes and is equivalent to LMFFM3031B Set up, operate and maintain CNC machining and processing centres.

Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=0601ab95-583a-4e93-b2d4-cfb27b03ed73

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Assessment Requirements for MSFFM3022 Set up, operate and maintain computer numerically controlled (CNC) machining and processing centres

Modification History

Release 1 - New unit of competency

Performance Evidence

- Locate, interpret 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 practices to:
  - minimise the risk of injury to self or others
  - prevent damage to goods, equipment or products
  - maintain required production output and product quality
- Identify, set up and operate CNC machining and processing centre equipment to complete detailed profiling, including:
  - development and application of sub-program
  - development and application of parametric program, and
  - application of CAD/CAM functions
- Conduct operator maintenance on the machining and processing centre equipment
- 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
- Minimise wastage of resources, including materials, time and money
- Work with others and in a team by recognising dependencies and using cooperative approaches to optimise work flow and productivity

Knowledge Evidence

- Types, characteristics, uses and limitations of CNC machining and processing centres
- CNC theory, practices and techniques
- Characteristics of materials used and uses of products produced
- Work flow processes
- Procedures for reporting materials, product or equipment faults

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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 CNC controlled equipment, standard operating procedures, unprocessed materials.

Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=0601ab95-583a-4e93-b2d4-cfb27b03ed73

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MSFGG2013 Move single glass sheets by mechanical means

Modification History

Release 1. Supersedes and is equivalent to MSFGG2006 Move single glass sheets by mechanical means.

Application

This unit describes the skills and knowledge required to plan for, and move sheet glass by mechanical means individually and as part of a team.

This unit applies to glass processing workers and glaziers working in accordance with established procedures.

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

N/A

Unit Sector

Glass and Glazing

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 glass moving	1.1 Read work instructions and identify type and quantity of glass to be relocated 1.2 Identify and follow work health and safety requirements, using all required personal protective equipment 1.3 Identify glass sheets to be moved and estimate or calculate weight using appropriate method 1.4 Identify risks to self, others, material and equipment arising from the required lifting, load carrying, set down or movement of glass 1.5 Correctly identify mechanical handling equipment and teamwork

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Elements	**Performance Criteria**
Elements describe the essential *outcomes.*	*Performance criteria describe the performance needed to demonstrate achievement of the element.*
	requirements based on the size, weight and type of glass
2. Plan glass movement	2.1 Identify destination for glass and determine routes to be followed 2.2 Compare required clearances to available space and make adjustments 2.3 Plan process for relocating glass in accordance with workplace procedures, and include contingency measures for potential difficulties 2.4 Check proposed process against advisory standards and workplace procedures for compliance
3. Relocate glass	3.1 Set and test equipment settings and safety controls in accordance with workplace procedures with faulty equipment tagged and alternative arrangements made 3.2 Check glass for imperfections and damage prior to movement 3.3 Operate equipment in accordance with approved advisory standards, manufacturer instructions, workplace procedures and safety requirements 3.4 Follow planned process and route and relocate glass without damage to material, personnel or equipment 3.5 Attach required labels and store glass in accordance with workplace procedures ensuring there are no projections 3.6 Check relocation to see that it meets work requirements, and report any differences
4. Complete work	4.1 Clean, maintain and store handling equipment in accordance with workplace procedures 4.2 Accurately complete required workplace documentation

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 MSFGG2006 Move single glass sheets by mechanical means.

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Assessment Requirements for MSFGG2013 Move single glass sheets by mechanical means

Modification History

Release 1. Supersedes and is equivalent to MSFGG2006 Move single glass sheets by mechanical means.

Performance Evidence

There must be evidence the candidate has completed the tasks outlined in the elements and performance criteria of this unit, and:

- relocated glass sheets of different types, thicknesses and weights in accordance with safety requirements and all relevant regulations and standards:
  - laminated and/or tempered and annealed float
  - 3 different weights and sizes, with 2 measuring at least 4.0m2 and weighing at least 100 kg
- used 3 of the following types of equipment:
  - gantry or mobile crane up to 4.9 SWL
  - glass dolly
  - mini crane with vacuum sucker
  - portable lifter
  - scissor grab
  - vacuum rig
- moved sheet glass as part of a team on at least 1 occasion.
-

Knowledge Evidence

There must be evidence the candidate has knowledge of:

- mathematical procedures for calculation of glass weight
- glass sheet movement by mechanical means:
  - quality, characteristics and behaviour of glass sheet when lifted and moved
  - risks and hazards
  - workplace safety system requirements
  - work flow requirements
  - principles and techniques, the types of problems that may occur and how to avoid and respond
- capabilities, operating processes and procedures for mechanical handling equipment:
  - weight load limits (WWL) and how to determine

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  - safe working load (SWL) tables and how to use
  - gantry cranes up to 4.9 safe working load (SWL)
  - scissor grabs
  - vacuum rigs
  - portable lifter
- features of glass sheet storage systems
  - documentation requirements for glass movement.
  -

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:
  - glass sheets to be moved
  - equipment, tools and materials to complete tasks specified in the Performance Evidence
  - safety and personal protective equipment
  - work orders
  - 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

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MSFGG2016 Assemble glazing products

Modification History

Release 1. Supersedes and is not equivalent to MSFGG2009 Fabricate and assemble frames.

Application

This unit describes the skills and knowledge required to identify work requirements, prepare for work and assemble components for glazing products. Glazing products may be made from aluminium, steel, timber or unplasticised polyvinyl chloride (uPVC).

This unit applies to individuals assembling products in accordance with pre-determined work orders and plans.

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

Unit Sector

Glass and glazing

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 work requirements and components	1.1 Read work documentation and identify assembly requirements 1.2 Identify and follow work health and safety requirements 1.3 Plan a logical work sequence suited to the job and workplace procedures
2. Prepare for assembly	2.1 Select and check tools and equipment for suitability, serviceability and safety prior to use 2.2 Select and confirm component parts against specifications 2.3 Check measurements for accuracy, legibility and tolerance, and note and position mating or directional marks 2.4 Set up assembly tools and equipment in accordance with production objectives, manufacturer instructions and workplace

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Elements	**Performance Criteria**
Elements describe the essential *outcomes.*	*Performance criteria describe the performance needed to demonstrate achievement of the element.*
	procedures
3. Assemble components	3.1 Lay out and assemble components ensuring conformity to specifications, alignment and appropriate fastening 3.2 Attach hardware and fixings in accordance with specifications 3.3 Reveal product once assembled in accordance with job requirements 3.4 Inspect completed product for compliance with specifications and quality requirements, and repair, reprocess or discard in accordance with workplace procedures
4. Complete work	4.1 Label and store completed products in accordance with workplace procedures and Australian Standards 4.2 Clean work area and safely dispose of waste 4.3 Remove and store tools, equipment and unused materials in accordance with workplace procedures 4.4 Accurately complete required workplace documentation

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=0601ab95-583a-4e93-b2d4-cfb27b03ed73

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Assessment Requirements for MSFGG2016 Assemble glazing products

Modification History

Release 1. Supersedes and is not equivalent to MSFGG2009 Fabricate and assemble frames.

Performance Evidence

There must be evidence the candidate has completed the tasks outlined in the elements and performance criteria of this unit, and:

- assembled 3 of the following types of glazing products with relevant hardware in accordance with job requirements:
  - double hung
  - casement
  - sashless sliding pack
  - showerscreen framed or semi-frameless
  - sliding
  - wardrobe
- installed all of the following component hardware to products (this may require product in addition to those above):
  - weather seals
  - wheels
  - stays
  - hinges
  - guides
  - locks.
  -

Knowledge Evidence

There must be evidence the candidate has knowledge of

- Australian Standards AS 2047: (Sections 6, 7 and 8)
- glazing product assembly:
  - workplace safety system requirements
  - work flow
  - characteristics, uses and limitations of different products
  - how to interpret processing requirements from different types of work documentation
  - types, characteristics, safe use, maintenance and limitations of fabrication tools and equipment:

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    - assembly benches
    - copy routers
    - electric and pneumatic powered drills and screwdrivers
    - end millers
    - frame and sash tooling
    - hand tools
    - hydraulic and manual presses
    - pleuws guns
    - pneumatic
    - pop rivet guns
    - saws, including drop and upcut
  - type, characteristics, uses and limitations of other materials used in assembly:
    - fasteners (screws and pop rivets)
    - gaskets
    - hardware
    - plastics
    - sealants
    - tapes
    - timber reveals
    - vinyl
  - techniques for product assembly, the types of problems that may occur and how to avoid and respond
  - quality indicators for assembled products
- procedures for the recording, reporting and maintenance of workplace records and information.
-

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:
  - product materials and components
  - equipment, tools and materials to complete tasks in the Performance Evidence
  - safety and personal protective equipment
  - work orders
  - workplace procedures.

Assessors must satisfy the NVR/AQTF mandatory competency requirements for assessors.

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MSFGG3028 Select, cut and process materials for glazing products

Modification History

Release 1. Supersedes and is not equivalent to MSFGG2009 Fabricate and assemble frames, and, MSFGG3020 Use static machines for aluminium and unplasticised polyvinyl chloride (uPVC) fabrication.

Application

This unit describes the skills and knowledge required to identify work requirements, prepare tools and materials, and cut and process materials for glazing products. Materials may be aluminium, steel, timber or unplasticised polyvinyl chloride (uPVC).

This unit applies to individuals cutting and processing materials in accordance with pre-determined work orders and plans.

Licensing, legislative or certification requirements may apply to this unit and relevant state/territory and local government agencies should be consulted to determine any necessary certification or licensing for undertaking glass and glazing work. Access to construction sites requires certification of general induction training specified by the National Code of Practice for Induction for Construction Work (ASCC 2007).

Pre-requisite Unit

N/A

Unit Sector

Glass and Glazing

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 work requirements	1.1 Read work documentation and identify cutting and processing requirements 1.2 Identify and follow work health and safety requirements 1.3 Plan a logical work sequence suited to the job and workplace

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Elements	**Performance Criteria**
Elements describe the essential *outcomes.*	*Performance criteria describe the performance needed to demonstrate achievement of the element.*
	procedures
2. Prepare for work	2.1 Select and check tools and equipment for suitability, serviceability and safety prior to use 2.2 Identify and match samples signed off by the customer 2.3 Check required components against specifications and select from available products 2.4 Set and test cutting equipment settings and safety controls in accordance with workplace procedures and manufacturer instructions 2.5 Accurately measure materials, and mark to cutting list requirements with most economical use of materials
3. Cut materials	3.1 Reconfirm machine settings through trial cutting on test materials prior to commencement of full cutting process 3.2 Cut materials to list requirements in accordance with workplace procedures 3.2 Identify problems with the cutting process and make required adjustments to process or equipment 3.3 Check and confirm that materials have been correctly and accurately cut to size based on job specifications and repair, reprocess or discard in accordance with workplace procedures
4. Fabricate parts	4.1 Set and test equipment settings and safety controls in accordance with workplace procedures and manufacturer instructions 4.2 Position and secure materials in jig to prevent movement 4.3 Process materials in accordance with specification 4.4 Identify processing problems and make required adjustments to process or equipment 4.5 Inspect completed product for compliance with quality and work order requirements and repair, reprocess or discard in accordance with workplace procedures
5. Complete work	5.1 Process and store completed product in accordance with workplace procedures 5.2 Remove excess materials for disposal or recycling in accordance with workplace procedures 5.3 Clean work area and safely dispose of rubbish 5.4 Remove and store tools, equipment and unused materials in

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Elements	Performance Criteria
Elements describe the essential *outcomes.*	*Performance criteria describe the performance needed to demonstrate achievement of the element.*
	accordance with workplace procedures 5.5 Accurately complete required workplace documentation

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=0601ab95-583a-4e93-b2d4-cfb27b03ed73

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Assessment Requirements for MSFGG3028 Select, cut and process materials for glazing products

Modification History

Release 1. Supersedes and is not equivalent to MSFGG2009 Fabricate and assemble frames, and, MSFGG3020 Use static machines for aluminium and unplasticised polyvinyl chloride (uPVC) fabrication.

Performance Evidence

There must be evidence the candidate has completed the tasks outlined in the elements and performance criteria of this unit, and:

- completed all of the following in accordance with work, safety and Australian Standards requirements:
  - produced a cutting list by hand and through use of software
  - identified, selected and checked 3 different extrusion profiles against customer requirements
  - cut:
    - 3 different profiles
    - 3 different lengths to allow 3 different set up and checks of the saw
  - processed materials for 2 different product types by hand:
    - using a jig
    - using hand tools including punches and files
  - processed materials for 2 different product types by machine (must be different to those products processed by hand)
  - demonstrated skills in:
    - identifying the correct processing type
    - identifying the correct die
    - changing the die in the press
    - drilling or crimping
    - precision measurement
    - safe use of a die punch press.
    -

Knowledge Evidence

There must be evidence the candidate has knowledge of:

- Australian Standards/New Zealand Standards AS/NZS 4667 and AS1288: their key purpose and how they impact fabrication work

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- mathematical procedures for estimation, optimisation and precision measurement
- glazing product cutting and processing:
  - workplace safety system requirements
  - work flow requirements
  - qualities and characteristics of materials used in different glazing products
  - how to interpret cutting and processing requirements from different types of work documentation
  - cutting and processing techniques, the types of problems that may occur and how to avoid and respond:
    - identifying the correct processing type
    - identifying the correct die
    - changing the die in the press
    - drilling or crimping
    - precision measurement
    - safe use of a die punch press
  - installation considerations for different products and how this impacts cutting and processing
  - types, characteristics, safe use, maintenance and limitations of cutting tools and equipment:
    - hack saw
    - drop saw
    - rip saw
    - up cut saw
  - techniques and requirements for calibrating and adjusting cutting equipment
  - types, characteristics, safe use, maintenance and limitations of different jigs and fixtures and die punch presses
  - quality indicators for cut and processed components
- documentation requirements for fabrication work.
-

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:
  - equipment, tools and materials to complete tasks in the Performance Evidence
  - work orders
  - workplace procedures.

Assessors must satisfy the NVR/AQTF mandatory competency requirements for assessors.

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MSFGG3029 Assess glass and glazing requirements

Modification History

Release 1. Supersedes and is equivalent to MSFGG3002 Assess glass and glazing requirements.

Application

This unit describes the skills and knowledge required to determine and evaluate residential glass and glazing requirements against the requirements of relevant Australian Standards.

This unit applies to glaziers, who apply specialised knowledge in determining compliance requirements for glass and glazing products.

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

N/A

Unit Sector

Glass and Glazing

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 assessment	1.1 Review work documentation and identify customer requirements and expectations regarding glass and glazing work 1.2 Identify and follow work health and safety requirements 1.3 Accurately record requirements in accordance with workplace procedures and requirements 1.4 Access and review research materials relevant to the assessment
2. Conduct assessment	2.1 Identify influencing factors and their significance, and determine impact on the end product 2.2 Identify products and/or types of glass and determine their

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Elements	**Performance Criteria**
Elements describe the essential *outcomes.*	*Performance criteria describe the performance needed to demonstrate achievement of the element.*
	application 2.3 Identify optimal solution and confirm specifications
3. Document outcomes	3.1 Accurately document outcomes of assessment in accordance with workplace procedures 3.2 Use outcomes to plan and complete work that meets all compliance 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 MSFGG3002 Assess glass and glazing requirements.

Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=0601ab95-583a-4e93-b2d4-cfb27b03ed73

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Assessment Requirements for MSFGG3029 Assess glass and glazing requirements

Modification History

Release 1. Supersedes and is equivalent to MSFGG3002 Assess glass and glazing requirements.

Performance Evidence

There must be evidence the candidate has completed the tasks outlined in the elements and performance criteria of this unit, and:

- assessed glazing requirements and developed solutions that meet the requirements of Australian Standards AS 1288, AS 2208 and AS/NZS 4668 where requirements individually or cumulatively present situations that involve:
  - at least 4 different types of glazing
  - safety glazing requirements, including thickness and materials limitations
  - impacts of human activity
  - wind loading requirements
  - installation parameters.

Knowledge Evidence

There must be evidence the candidate has knowledge of:

- Australian Standards, their purpose and key provisions:
  - AS 1288 (sections 1, 4, 5 and 8 plus overview of 6,7 and 9)
  - AS/NZS 2208 (overview all sections)
  - AS/NZS 4667 (overview all sections)
- mathematical procedures for estimation and measurement
- the assessment process and factors that influence assessment, including impacts of:
  - wind
  - humans
- formats and required inclusions for glass and glazing work orders.
-

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:

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- use of suitable facilities, equipment and resources, including:
  - product information
  - AS/NZS documentation as detailed in the Knowledge Evidence
  - customer requirements
  - 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

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MSFGG3039 Manually move glass

Modification History

Release 1. Supersedes and is not equivalent to MSFGG2005 Apply basic glass handling, and, MSFGG3001 Store and handle glass.

Application

This unit describes the skills and knowledge required to plan for and move sheets of glass by hand, both individually and as part of a team. Movement of glass may be within a glass workplace or between the workplace and another site.

This unit applies to glass processing workers and glaziers working in accordance with established procedures.

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

N/A

Unit Sector

Glass and Glazing

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 glass handling	1.1 Read instructions and identify the type and quantity of glass to be relocated 1.2 Identify and follow work health and safety requirements using all required personal protective equipment throughout the work 1.3 Identify sheet glass to be moved and estimate or calculate weight, shape, points of balance, and dimensions 1.4 Identify risks to self, others, material and equipment arising from required lifting, load carrying, set down or movement of glass 1.5 Identify the need for equipment or team lifting based on nature of

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Elements	**Performance Criteria**
Elements describe the essential *outcomes.*	*Performance criteria describe the performance needed to demonstrate achievement of the element.*
	glass and level of risk
2. Plan glass movement	2.1 Identify destination for glass and determine routes to be followed 2.2 Compare required clearances to available space and make any required adjustments 2.3 Plan process for relocating glass, and include contingency measures for potential difficulties 2.4 Check proposed process against advisory standards and workplace procedures for compliance
3. Relocate glass	3.1 Check glass for imperfections and damage prior to movement 3.2 Lift, lower and carry glass, in accordance with approved local work health and safety codes and workplace procedures 3.3 Coordinate team lifting tasks in accordance with approved local work health and safety codes and workplace procedures 3.4 Follow planned process and route and relocate glass without damage to material, personnel or equipment 3.5 Attach required labels and store glass in accordance with workplace procedures ensuring there are no projections 3.6 Check relocation against work requirements, and report any differences
4. Complete work	4.1 Clean, maintain and store handling equipment in accordance with workplace procedures 4.2 Accurately complete required workplace documentation

Foundation Skills

Foundation skills essential to performance are explicit in the performance criteria of this unit of competency.

Unit Mapping Information

No equivalent unit.

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Links

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Assessment Requirements for MSFGG3039 Manually move glass

Modification History

Release 1. Supersedes and is not equivalent to MSFGG2005 Apply basic glass handling, and, MSFGG3001 Store and handle glass.

Performance Evidence

There must be evidence the candidate has completed the tasks outlined in the elements and performance criteria of this unit, and:

- completed each of the following in accordance with all safety and manual handling procedures on at least 1 occasion:
  - individual movement of annealed equal to or above 1.2 m^2
  - individual movement of laminated glass equal to or above 1.2 m^2
  - team movement of annealed glass equal to or above 4.5 m^2
  - team movement of laminated glass equal to or above 4.5 m^2
- moved glass in the following contexts:
  - loading and unloading of trucks
  - between trolleys and work benches.
  -

Knowledge Evidence

There must be evidence the candidate has knowledge of:

- key information from work health and safety regulations relating to manual tasks and national code of practice:
  - role and responsibilities of the employer and employees in relation to manual handling safety
  - manual handling techniques that support safe work practice:
    - preparing the load
    - preparing the environment
    - using the stronger muscles in the legs where possible, rather than spinal muscles
    - maintaining a neutral spine when lifting and carrying
    - using two hands to lift or carry
    - keeping the load close to the body and centre of gravity
    - avoiding lifting objects above shoulder height
    - minimising repetitive movements
    - positions not held for long periods of time
    - avoiding twisting by repositioning feet while turning

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- mathematical procedures for calculation of glass weight
- glass manual handling:
  - quality, characteristics and behaviour of glass sheet when lifted and moved
  - risks and hazards
  - workplace safety system requirements
  - work flow requirements
  - principles and techniques of freefalling glass
  - the types of problems that may occur and how to avoid and respond
  - specific considerations when:
    - loading and unloading trucks
    - moving between trolleys and/or stillages, work benches and racks
- types, uses and limitations of tools and equipment used to support manual handling of glass
- features of glass sheet storage systems
- processes and communication protocols for team lifting
- workplace documentation requirements for glass movement.
-

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:
  - glass storage and handling area
  - trolleys and/or stillages
  - work benches
  - racks
  - glass sheet to be relocated
  - safety and personal protective equipment
  - work orders
  - 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

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MSFSF1001 Produce basic soft furnishing accessories

Modification History

Release 1 - New unit of competency

Application

This unit of competency covers producing basic soft furnishing accessories, such as basic cushions and other decorative items, following the requirements of patterns.

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

Pre-requisite Unit

Competency Field

Unit Sector

Soft Furnishing

Elements and Performance Criteria

Elements describe the essential outcomes.		Performance criteria describe the performance needed to demonstrate achievement of the element.	
1	Identify work requirements	1.1	Job requirements are identified from work instructions and patterns
		1.2	Work health and safety (WHS) requirements, including ergonomic criteria and personal protection needs, are observed throughout the work
		1.3	Pattern is interpreted to determine tool, equipment and material requirements
		1.4	Instructions for sequencing of work and particular measurements or adjustments are interpreted
		1.5	Work sequence is planned, including quality checkpoints
2	Prepare for work	2.1	Suitable work area is selected for the tasks

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		2.2	Materials are selected to match customer requirements, suitability for the purpose and work instructions
		2.3	Potential hazards are identified from observation of the tools, equipment, materials and workplace reference material
		2.4	Required tools, equipment and materials are collected in the work area
3	Complete production	3.1	Soft furnishing accessories are produced following work instructions
		3.2	Work is checked against patterns and worksheets at the identified checkpoints
		3.3	Non-conformity with the required quality standards is rectified
4	Finalise operations	4.1	Completed work is checked against required quality standards
		4.2	Documentation is completed following workplace procedures
		4.3	Work area is cleaned, and tools and equipment are returned to storage
		4.4	Unused materials are returned to storage and waste and scrap are dealt with following workplace 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

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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 some discretion, judgement and problem solving
Soft furnishing accessories include:	• basic cushions • bolsters • soft tableware and slip-on covers

Tools and equipment include:	• measuring and calculating equipment:
	  • tapes
	  • rulers
	  • calculators
	  • computers
	• fabric and general cutting and sewing tools:
	  • scissors
	  • saws
	  • drills
	  • staplers
	  • sewing machines
	  • hemming machines
	  • overlockers
	  • glue guns

Materials include:	• plain and patterned fabric • velvet • vinyl • piping cords • wadding • foam • zips and fasteners
Pattern interpretation includes:	• the determination of type of material specified, required tools and equipment for the task, number and type of soft furnishing accessories to be produced, and quality requirements
Personal protective	• that prescribed under legislation, regulations and enterprise policies and practices

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equipment includes:

Information and procedures include:

- workplace procedures relating to the use of tools and equipment
- work instructions, including job sheets, cutting lists, plans, drawings and designs
- workplace procedures relating to reporting and communication
- manufacturer specifications and operational procedures

Unit Mapping Information

Supersedes and is equivalent to LMFSF1001B Produce basic soft furnishing accessories.

Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=0601ab95-583a-4e93-b2d4-cfb27b03ed73

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Assessment Requirements for MSFSF1001 Produce basic soft furnishing accessories

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 patterns and produce at least one (1) type of soft furniture accessory
- 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

- Types, characteristics, uses and limitations of basic soft furnishing materials
- Interpretation of patterns
- Identification of equipment, processes and procedures
- Work flow in relation to soft furnishing accessory production

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

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  - 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 soft furnishing accessory patterns and materials.

Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=0601ab95-583a-4e93-b2d4-cfb27b03ed73

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MSFSF2001 Cut single layer fabrics

Modification History

Release 1 - New unit of competency

Application

This unit of competency covers measuring out and cutting single layer fabrics for manufacture of curtains and soft furnishing accessories. It does not apply to cutting from patterns.

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

Pre-requisite Unit

Competency Field

Unit Sector

Soft Furnishing

Elements and Performance Criteria

Elements describe the essential outcomes.		Performance criteria describe the performance needed to demonstrate achievement of the element.	
1	Plan work operations	1.1	Required fabrics, number of items to be cut and required equipment are identified
		1.2	Fabric sizes to be cut are identified from work order plus any required allowances
		1.3	Work health and safety (WHS) requirements, including ergonomic criteria and personal protection needs, are observed throughout the work.
		1.4	Suitable work area is selected, tidied and cleaned of any contaminants
		1.5	Suitable scissors and/or blades are selected and checked prior to use for appropriate sharpness, set, operation and safe condition

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		1.6	Fabrics are selected in accordance with work order and laid out smooth and square
2	Prepare materials for cutting	2.1	Fabrics are inspected for flaws and appropriate finish
		2.2	Naps, direction, pattern matches and face of the materials are identified
		2.3	Tools and equipment are checked for operation
3	Complete cutting operations	3.1	Cutting is completed with cut out materials identified/labelled where required
		3.2	Any measurements for pleat lines, hems, headings and any special seam allowances are marked out using workplace approved methods
		3.3	Where required, fabrics are hung using appropriate protective covers and care label information is attached
		3.4	Cut lengths are despatched to next process following workplace procedures
		3.5	Unused materials are stored as required
		3.6	Workplace required documentation is completed following appropriate procedures
		3.7	Work area is cleaned and damaged tools tagged as required
		3.8	Waste is collected and bundled for recycling/re-use as required

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

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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 some discretion, judgement and problem solving

Tools and equipment include:	• cutting equipment, including scissors and cutting machines
	• measuring and calculating equipment:
	  • tapes
	  • rulers
	  • calculators and computers

Products to be constructed include:	• curtains • drapes • swags • cushions • upholstered furniture components
Personal protective equipment includes:	• that prescribed under legislation, regulations and enterprise policies and practices
Information and procedures include:	• workplace procedures relating to the use of tools and equipment • work instructions, including job sheets, cutting lists, plans, drawings and designs • workplace procedures relating to reporting and communication • manufacturer specifications and operational procedures

Unit Mapping Information

Supersedes and is equivalent to LMFSF2001B Cut single layer fabrics.

Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=0601ab95-583a-4e93-b2d4-cfb27b03ed73

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Assessment Requirements for MSFSF2001 Cut single layer fabrics

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
- Identify materials used and any special marking out requirements
- Measure accurately and cut fabric quantities to minimise waste and produce consistent quality items for at least five (5) different types of material or product
- 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

- Work requirements, including workplace standards
- Fabric types, common faults and inspection procedures
- Design features of the finished items in relation to attractive use of fabric patterns
- Cutting equipment and techniques
- Effect of cutting on fabrics

Assessment Conditions

- Assessors must:
  - hold training and assessment competencies as determined by the National Skills Standards Council (NSSC) or its successors

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  - 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 fabrics, including linings and interlinings, calculator and other workplace calculating and cutting equipment.

Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=0601ab95-583a-4e93-b2d4-cfb27b03ed73

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MSL915003 Provide information to customers

Modification History

Release	Comments
Release 1	This version was released in *MSL Laboratory Operations Training Package Release 2.0.* Supersedes and equivalent to MSL915001 Provide information to customers. Range of conditions removed. Assessment requirements amended.

Application

This unit of competency covers describes the skills and knowledge to respond to both internal and external inquiries of a specialised technical nature. The advice and information requested will require the gathering of information, such as trend analysis, collection of data and samples, confirmation of validity of results, and revision of plans or product advice additional to that on data sheets.

This unit of competency applies to technical assistants and officers in all industry sectors. All personnel that conduct sampling and testing are required to communicate appropriately with internal and external customers in order to respond effectively to requests of a specialised technical nature.

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

Communication/organisation

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Elements and Performance Criteria

Elements describe the essential outcomes.		Performance criteria describe the performance needed to demonstrate achievement of the element.	
1	**Assess the request for information and/or advice**	1.1	Clarify and confirm the source, nature and priority of the request
		1.2	Record the receipt of the request in accordance with workplace procedures
2	**Prepare response**	2.1	Locate and obtain required information
		2.2	Decide whether to obtain or generate additional information given the priority and costs involved
		2.3	Seek required approval/authority to release information before proceeding
3	**Provide information and/or advice**	3.1	Ensure that information is accurate, relevant and complies with workplace/statutory requirements
		3.2	Keep the customer informed of progress when it is not possible to answer immediately
		3.3	Notify other relevant personnel of request and response in accordance with workplace procedures
		3.4	Use most appropriate communication method given priority, cost and customer facilities
		3.5	Provide information in a format suitable to customer
		3.6	Check that the response met the customer's needs and take appropriate actions
		3.7	Deal with customers politely, efficiently and appropriately, and in accordance with workplace procedures
4	**Record details of the request and response**	4.1	Record all information details accurately in accordance with workplace procedures
		4.2	Ensure that all written information is accurate and/or

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Elements describe the essential outcomes.	Performance criteria describe the performance needed to demonstrate achievement of the element.
	legible
	4.3 File all records in the designated place and in accordance with workplace 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.

Unit Mapping Information

Equivalent to MSL915001 Provide information to customers, 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

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Assessment Requirements for MSL915003 Provide information to customers

Modification History

Release	Comments
Release 1	This version was released in *MSL Laboratory Operations Training Package Release 2.0.* Supersedes and equivalent to MSL915001 Provide information to customers. Range of conditions removed. Assessment requirements amended.

Performance Evidence

There must be evidence the candidate has completed the tasks outlined in the elements and performance criteria of this unit, and:

- effectively assessed, prioritised and responded to specialised technical inquires including:
  - providing clear and accurate information to 1 internal customer
  - providing clear and accurate appropriate information to 1 external customer.

Knowledge Evidence

There must be evidence the candidate has knowledge of:

- responding to both internal and external inquiries of a specialised technical nature
- correctly assessing and prioritising requests for information
- gathering information and data, such as trend analysis
- confirming the validity of results
- providing authorised information that is accurate, relevant and in the required format
- using technical terminology appropriate to the customer and avoiding jargon
- effective communication strategies
- communicating in an efficient and polite manner, taking into account the needs of the customer
- recording and filing records of the request and information provided as required by workplace procedures
- communication equipment: telephone, email, intranet, internet and computer software applications (databases and spreadsheets)
- workplace business goals and key performance indicators as a basis for dealing with customers
- workplace, state/territory and Commonwealth requirements for:

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- work health and safety (WHS):
  - managing risks and hazards
  - safety requirements for the use of equipment, materials and products
- confidentiality and security.

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:
  - information directories and databases
  - workplace procedures
  - information technology, including telephone and computer equipment, email and online information systems.

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

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MSL936003 Maintain quality system and continuous improvement processes within work or functional area

Modification History

Release	Comments
Release 1	This version was released in *MSL Laboratory Operations Training Package Release 2.0.* Supersedes and equivalent to MSL936001 Maintain quality system and continuous improvement processes within work or functional area. Foundation skill information added. Range of conditions removed. Assessment requirements amended.

Application

This unit of competency describes the skills and knowledge to take responsibility for the day-to-day operation of the work or functional area and ensuring that quality system requirements are met and continuous improvements are initiated.

This unit applies to senior technical officers and laboratory supervisors working in all industry sectors. Quality audits and evaluations for the work area may be undertaken as an individual or as part of a team under broad direction from scientists/medical staff/engineers.

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

Quality

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Elements and Performance Criteria

Elements describe the essential outcomes.		Performance criteria describe the performance needed to demonstrate achievement of the element.	
1	**Develop and maintain quality framework within work area**	1.1	Distribute and explain information about the workplace's quality system to personnel
		1.2	Encourage personnel to participate in improvement processes and to assume responsibility for quality outputs
		1.3	Allocate responsibilities for quality within work area in accordance with quality system
		1.4	Provide coaching and mentoring to ensure that personnel are able to meet their responsibilities and quality requirements
2	**Maintain quality documentation**	2.1	Identify required quality documentation, including records of improvement plans and initiatives
		2.2	Prepare and maintain quality documentation and keep accurate data records
		2.3	Maintain document control system for work area
		2.4	Contribute to the development and revision of quality manuals and work instructions for the work area
		2.5	Develop and implement inspection and test plans for quality controlled products
3	**Provide training in quality systems and improvement processes**	3.1	Analyse roles, duties and current competency of relevant personnel
		3.2	Identify training needs in relation to quality system and continuous improvement processes
		3.3	Identify opportunities for skills development and/or training programs to meet needs
		3.4	Initiate and monitor training and skills development programs
		3.5	Maintain accurate training records

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Elements describe the essential outcomes.	Performance criteria describe the performance needed to demonstrate achievement of the element.
4 **Optimise and report performance**	4.1 Review performance outcomes to identify ways in which planning and operations could be improved
	4.2 Enhance customer service through the use of quality improvement techniques and processes
	4.3 Adjust plans and communicate these to personnel involved in their development and implementation
5 **Evaluate relevant components of quality system**	5.1 Undertake regular audits of components of the quality system that relate to the work area
	5.2 Implement improvements in the quality system in accordance with own level of responsibility and workplace procedures

Foundation Skills

This section describes those language, literacy, numeracy and employment skills that are essential to performance.

- Oral communication skills to:
  - interact effectively with auditors, supervisors, managers and quality managers, laboratory and production staff, customers and suppliers
  - gain commitment of individuals and teams to apply quality principles and practices
  - encourage ideas and feedback from team members when developing and refining techniques and processes.

Other foundation skills essential to performance are explicit in the performance criteria of this unit.

Unit Mapping Information

Equivalent to MSL936001 Maintain quality system and continuous improvement processes within work or functional area, Release 1.

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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

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Assessment Requirements for MSL936003 Maintain quality system and continuous improvement processes within work or functional area

Modification History

Release	Comments
Release 1	This version was released in *MSL Laboratory Operations Training Package Release 2.0.* Supersedes and equivalent to MSL936001 Maintain quality system and continuous improvement processes within work or functional area. Foundation skill information added. Range of conditions removed. Assessment requirements amended.

Performance Evidence

There must be evidence the candidate has completed the tasks outlined in the elements and performance criteria of this unit, and:

- ensured that the quality system requirements of day-to-day operations in the work area are effectively met, over a period of 3 days/shifts.

Knowledge Evidence

There must be evidence the candidate has knowledge of:

- workplace business goals and key performance indicators (KPIs)
- workplace organisational structure, delegations and responsibilities, and information management systems
- relevant sections of national and international quality standards, codes and protocols that apply in work area
- workplace quality system, plans and documentation
- continuous/quality improvement techniques, such as Pareto charts; strengths, weakness, opportunities, threats (SWOT) analysis; and plan, do, check, act (PDCA)
- registration/licensing and/or National Association of Testing Authorities (NATA) accreditation requirements
- scientific, technical and workplace terminology; and technical developments in the sector (current methodologies, ranges and interpretations)
- types of quality audits:
  - regular checks of laboratory procedures
  - daily and weekly checks of specimen reception, instrumentation and results for control and standard samples to identify non-conformance and problem areas

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    - maintenance of appropriate certified reference materials
    - participation in external quality assurance programs
- workplace procedures for:
    - technical work performed in work area
    - workplace policy and procedure development processes
    - workplace communication
    - developing/amending and tracking documentation
    - recording and reporting
    - records management and maintenance
- awareness of environmental sustainability issues as they relate to the work task
- legal, ethical and work health and safety (WHS) 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:
    - sampling plans, workplace quality manual, quality (certification or registration) requirements, quality and customer data, audit documents, performance plans and reports, and training records and/or plans
    - workplace procedures relating to WHS, equal opportunity, environmental legislative requirements, and industrial awards and workplace agreements.
- modelling of industry operating conditions, including:
    - interactions with laboratory operations staff.

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

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MSL954004 Obtain representative samples in accordance with sampling plan

Modification History

Release	Comments
Release 1	This version was released in *MSL Laboratory Operations Training Package Release 2.0.* Supersedes and equivalent to MSL954001 Obtain representative samples in accordance with sampling plan. Range of conditions removed. Assessment requirements amended.

Application

This unit of competency describes the skills and knowledge to obtain a range of samples that are representative of the source material and to prepare the samples for testing. All sampling activities are conducted in accordance with a defined sampling plan. This unit does not cover the subsequent testing of the samples.

This unit of competency applies to laboratory technicians in all 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

Sampling

Elements and Performance Criteria

Elements describe the essential outcomes.	Performance criteria describe the performance needed to demonstrate achievement of the element.

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Elements describe the essential outcomes.		Performance criteria describe the performance needed to demonstrate achievement of the element.	
1	**Prepare for sampling**	1.1	Confirm the sampling location, number and type of samples, and timing and frequency of sampling from workplace or client's sampling plan
		1.2	Liaise with relevant personnel to arrange site access and all necessary clearances and/or permits as required
		1.3	Select sampling equipment and conditions to achieve representative samples and preserve sample integrity during collection, storage and transit
		1.4	Check that all procedures are in accordance with client or workplace requirements, relevant standards and codes
		1.5	Identify site and sampling hazards and review workplace safety procedures
		1.6	Assemble and check all sampling equipment, materials, containers and safety equipment
		1.7	Arrange suitable transport to, from and around site as required
2	**Conduct sampling and log samples**	2.1	Locate sampling sites
		2.2	Conduct representative sampling in accordance with sampling plan and defined procedures
		2.3	Record all information and label samples in accordance with traceability requirements
		2.4	Record environment or production conditions and any atypical observations made during sampling that may impact on sample representativeness or integrity
		2.5	Transport all samples back to base according to standard operating procedures (SOPs) and relevant codes
3	**Prepare samples for testing**	3.1	Prepare sub-samples and back-up sub-samples that are representative of the source
		3.2	Label all sub-samples to ensure traceability and store in

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Elements describe the essential outcomes.		Performance criteria describe the performance needed to demonstrate achievement of the element.	
			accordance with SOPs
		3.3	Follow defined preparation and safety procedures to limit hazard or contamination to samples, self, work area and environment
		3.4	Distribute sub-samples to defined workstations maintaining sample integrity and traceability requirements
4	**Address client issues**	4.1	Enter approved information into laboratory information management system (LIMS), as required
		4.2	Report all relevant aspects of the sampling and preparation phases in accordance with workplace procedures
		4.3	Ensure that information provided to client is accurate, relevant and authorised for release
		4.4	Maintain security and confidentiality of all client/workplace data and information
5	**Maintain a safe work environment**	5.1	Clean all equipment, containers, work area and vehicles according to workplace procedures
		5.2	Check serviceability of all equipment before storage
		5.3	Use defined safe work practices and personal protective equipment (PPE) to ensure personal safety and that of other personnel
		5.4	Minimise the generation of wastes and environment impacts
		5.5	Ensure the safe collection of all hazardous wastes for appropriate disposal

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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

Equivalent to MSL954001 Obtain representative samples in accordance with sampling plan, 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

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Assessment Requirements for MSL954004 Obtain representative samples in accordance with sampling plan

Modification History

Release	Comments
Release 1	This version was released in *MSL Laboratory Operations Training Package Release 2.0.* Supersedes and equivalent to MSL954001 Obtain representative samples in accordance with sampling plan. Range of conditions removed. Assessment requirements amended.

Performance Evidence

There must be evidence the candidate has completed the tasks outlined in the elements and performance criteria of this unit, and:

- obtained samples from at least 3 different sampling points, that are representative of the source material and taken in accordance with a sampling plan.

Knowledge Evidence

There must be evidence the candidate has knowledge of:

- principles of representative sampling, including:
  - representative samples
  - preservation of integrity of samples
  - maintaining identification of samples relative to their source, workplace and legal traceability
  - cost-effectiveness of sampling
  - consistency of sampling procedures
- function of key sampling equipment/materials and principles of operation
- sampling principles, including random, systematic and stratified sampling
- characteristics of product/materials sampled as part of job role and likely contaminants
- methods to maintain the integrity of samples
- maps and site plans
- links between quality control, quality assurance, quality management systems and sampling procedures
- site and sampling hazards and the links between following WHS procedures and personal and environmental safety, particularly at high risk sites
- workplace and/or legal traceability requirements

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- awareness of environmental sustainability issues as they relate to the work task
- legal, ethical and work health and safety (WHS) 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:
  - source material
  - a variety of sample types
  - sampling plans and procedures, sampling containers and sampling equipment, and sample preparation materials and equipment.

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

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MSL973013 Perform basic tests

Modification History

Release	Comments
Release 1	This version was released in *MSL Laboratory Operations Training Package Release 2.0.* Supersedes and equivalent to MSL973001 Perform basic tests. Foundation skills information added. Range of conditions removed. Assessment requirements amended.

Application

This unit of competency describes the skills and knowledge to prepare samples and perform tests and measurements using standard methods with access to readily available advice from supervisors.

This unit of competency applies to laboratory/field assistants working in all industry sectors. In general, they do not calibrate equipment and make only limited adjustments to the controls. They do not interpret or analyse results or troubleshoot equipment problems.

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.

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Elements describe the essential outcomes.		Performance criteria describe the performance needed to demonstrate achievement of the element.	
1	**Interpret test requirements**	1.1	Review test request to identify samples to be tested, test method and equipment involved
		1.2	Identify hazards and workplace controls associated with the sample, preparation methods, reagents and/or equipment
2	**Prepare sample**	2.1	Record sample description, compare with specification, record and report discrepancies
		2.2	Prepare sample in accordance with appropriate standard methods
3	**Check equipment before use**	3.1	Set up test equipment in accordance with test method
		3.2	Perform pre-use and safety checks in accordance with workplace procedures and manufacturer instructions
		3.3	Identify faulty or unsafe equipment and report to appropriate personnel
		3.4	Check calibration status of equipment and report any out-of-calibration items to appropriate personnel
4	**Perform tests on samples**	4.1	Identify, prepare and weigh or measure sample and standards to be tested
		4.2	Conduct tests in accordance with workplace procedures
		4.3	Record data in accordance with workplace procedures
		4.4	Perform calculations on data as required
		4.5	Identify and report out of specification or atypical results promptly to appropriate personnel
		4.6	Shut down equipment in accordance with operating procedures
5	**Maintain a safe work environment**	5.1	Use established safe work practices and personal protective equipment (PPE) to ensure personal safety and that of other laboratory personnel
		5.2	Minimise the generation of wastes and environmental impacts
		5.3	Ensure safe disposal of laboratory and hazardous wastes

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Elements describe the essential outcomes.	Performance criteria describe the performance needed to demonstrate achievement of the element.
	5.4 Clean, care for and store equipment and reagents as required

Foundation Skills

This section describes those language, literacy, numeracy and employment skills that are essential to performance.

- Numeracy skills to calculate simple quantities using appropriate equations, units, uncertainties and precision

Other foundation skills essential to performance are explicit in the performance criteria of this unit.

Unit Mapping Information

Release 1. Supersedes MSL973001 Perform basic tests.

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

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Assessment Requirements for MSL973013 Perform basic tests

Modification History

Release	Comments
Release 1	This version was released in *MSL Laboratory Operations Training Package Release 2.0.* Supersedes and equivalent to MSL973001 Perform basic tests. Foundation skills information added. Range of conditions removed. Assessment requirements amended.

Performance Evidence

There must be evidence the candidate has completed the tasks outlined in the elements and performance criteria of this unit, and:

- prepared samples using different processes
- performed at least 3 basic tests or measurements using standard methods and procedures.

Knowledge Evidence

There must be evidence the candidate has knowledge of:

- concepts of metrology, including:
  - all measurements are estimates
  - measurements belong to a population of measurements of the measured parameters
  - precision, accuracy and significant figures
  - sources of error, uncertainty and repeatability
  - traceability
- international system of units (SI)
- purpose of tests performed as part of job role and principles of the standard methods/specifications used
- sample preparation processes relevant to job role
- typical basic tests and methods relevant to job role
- measurements used for typical tests
- function of key components of the test equipment, pre-use equipment and safety checks
- sources of uncertainty in measurement and methods for control
- workplace and/or legal traceability requirements
- interpretation and recording of test result, including simple calculations
- procedures for recognising and reporting of unexpected or unusual results
- legal, ethical and work health and safety (WHS) requirements specific to the work task.

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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, including:
  - a standard laboratory equipped with basic test equipment, common measuring instruments, materials, standard methods, workplace procedures, SDS and equipment manuals.

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

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MSL974019 Perform chemical tests and procedures

Modification History

Release	Comments
Release 1	This version was released in *MSL Laboratory Operations Training Package Release 2.0.* Supersedes and equivalent to MSL974003 Perform chemical tests and procedures. Changes to performance criteria. Range of conditions removed. Assessment requirements amended.

Application

This unit of competency describes the skills and knowledge to interpret chemical test requirements, prepare samples, conduct pre-use and calibration checks on equipment and perform routine chemical tests. These tests will involve several measurement steps. The unit includes basic data processing and interpretation of results.

This unit applies to laboratory or technical assistants and instrument operators in all 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.

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Elements describe the essential outcomes.		Performance criteria describe the performance needed to demonstrate achievement of the element.	
1	**Interpret and schedule test requirements**	1.1	Review test request to identify samples to be tested, test method and equipment and instruments involved
		1.2	Identify hazards and workplace control measures associated with the sample, preparation and test methods, reagents and/or equipment
		1.3	Plan work sequences to optimise throughput of multiple samples
2	**Receive and prepare samples**	2.1	Log samples using standard operating procedures (SOPs)
		2.2	Record sample description, compare with specification and note and report discrepancies
		2.3	Prepare samples and standards in accordance with chemical testing requirements
3	**Check equipment before use**	3.1	Set up equipment and instruments in accordance with test method requirements
		3.2	Perform pre-use and safety checks in accordance with relevant workplace and operating procedures
		3.3	Check equipment calibration using specified standards and procedures
		3.4	Inspect reagents required for quality issues including visual checks and expiry
		3.5	Maintain equipment log in accordance with workplace procedures
4	**Test samples to determine chemical species or properties**	4.1	Operate equipment and instruments in accordance with test method requirements
		4.2	Perform tests or procedures on all samples and standards in accordance with specified methods
		4.3	Shut down equipment and instruments in accordance

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Elements describe the essential outcomes.		Performance criteria describe the performance needed to demonstrate achievement of the element.	
			with operating procedures
5	**Process and interpret data**	5.1	Record test data noting atypical observations and anomalies
		5.2	Construct calibration graphs and compute results for all samples from these graphs
		5.3	Check calculated values for consistency with expectations
		5.4	Record and report results in accordance with workplace procedures
		5.5	Determine if obvious procedure or equipment problems have led to atypical data or results
6	**Maintain a safe work environment**	6.1	Use established safe work practices and personal protective equipment (PPE) to ensure personal safety and that of other laboratory personnel
		6.2	Minimise the generation of wastes and environmental impacts
		6.3	Safely collect and dispose of laboratory and hazardous waste
		6.4	Care for and store equipment and reagents as required
7	**Maintain laboratory records**	7.1	Record entries on report forms or into a laboratory information management system accurately calculating, recording or transcribing data as required
		7.2	Ensure traceability of sample from receipt to reporting of results

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Foundation Skills

This section describes those language, literacy, numeracy and employment skills that are essential to performance.

- Problem-solving skills to trace and source obvious causes of artefacts, track obvious test malfunctions for standardised procedures, and troubleshoot basic equipment and methods.
- Calculate the concentration of solutions.

Other foundation skills essential to performance are explicit in the performance criteria of this unit.

Unit Mapping Information

Equivalent to MSL974003 Perform chemical tests and procedures, 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

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Assessment Requirements for MSL974019 Perform chemical tests and procedures

Modification History

Release	Comments
Release 1	This version was released in *MSL Laboratory Operations Training Package Release 2.0.* Supersedes and equivalent to MSL974003 Perform chemical tests and procedures. Changes to performance criteria. Range of conditions removed. Assessment requirements amended.

Performance Evidence

There must be evidence the candidate has completed the tasks outlined in the elements and performance criteria of this unit, and:

- safely performed at least 3 different chemical tests involving several measurement steps including at least 1 of the following:
  - colorimetric techniques
  - infrared and ultraviolet-visible (UV-VIS) spectrophotometry
  - other spectrometric techniques
  - chromatographic techniques
  - electrochemical techniques
  - electrophoretic techniques
  - soil testing techniques
  - gravimetric analysis
  - titrimetric analysis
  - filtration, separation and solvent extraction techniques
  - corrosion testing, cement content and accelerated weathering.

Knowledge Evidence

There must be evidence the candidate has knowledge of:

- why chemical tests are performed
- relevant chemical principles and concepts, including:
  - elements, compounds, ions, atoms, molecules, bonding and links to chemical properties
  - periodic table and symbols of elements

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  - atomic mass and molecular weight
  - moles and molarity
  - chemical formulae and balancing equations
  - chemical reactions
  - energy levels and absorption/emission spectra
- purpose of the tests and/or procedures conducted
- international system of units (SI)
- principles and concepts related to equipment and instrument operation, tests and/or procedures
- requirements for cleaning up spills and reporting faulty or unsafe equipment, hazards and incidents.
- concepts of metrology, including:
  - all measurements are estimates
  - precision, accuracy and significant figures
  - sources of error, uncertainty and repeatability
  - traceability
- function of key components of the equipment and instrument and reagents and effects of modifying equipment and instrument variables
- common causes of analytical errors
- calibration requirements and basic equipment and method troubleshooting procedures
- sample preparation procedures for the tests and/or procedures conducted
- traceability requirements
- awareness of environmental sustainability issues as they relate to the work task
- legal, ethical and work health and safety (WHS) 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:
  - a standard laboratory equipped with appropriate sample preparation and test equipment, instruments, standards and reagents
  - workplace procedures and standard methods
  - records, including test and calibration results; equipment use, maintenance and servicing history, and faulty or unsafe equipment.

Assessors must satisfy the NVR/AQTF mandatory competency requirements for assessors.

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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

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MSMBLIC001 Licence to operate a standard boiler

Modification History

Release 1. Supersedes and is equivalent to MSABLIC001 Licence to operate a standard boiler.

Application

This unit specifies the outcomes required to operate a standard boiler safely. This includes boiler start-up, handover, monitoring, shutdown and storage of a boiler that uses a single fuel source and does not have an air pre-heater, feed water heater, superheater, attempurator or desuperheater, simultaneous dual fuel firing capability or economiser attached.

This unit also covers the preparation for inspection procedures as specified in manufacturer recommendations, identification of maintenance requirements and relevant risk control measures.

This unit is based on the licensing requirements of Part 4.5 of the Model Work Health and Safety (WHS) Regulations, High Risk Work, and meets Commonwealth, state and territory high risk work licensing requirements. Any alteration to the unit content or outcomes would result in a unit that is not acceptable to WHS/Occupational Health and Safety (OHS) regulators for the purpose of licensing.

Pre-requisite Unit

Nil

Competency Field

Unit Sector

Boiler operation (licensed)

Elements and Performance Criteria

Elements describe the essential outcomes		Performance criteria describe the performance needed to demonstrate achievement of the element
1	**Plan and prepare**	1.1 Follow standard operating procedures (SOPs)

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	for work	1.2	Comply with work health and safety (WHS) requirements at all times
		1.3	Identify potential workplace hazards and appropriate risk control measures consistent with appropriate standards to ensure the safety of personnel and equipment
		1.4	Locate and review appropriate records to prepare for boiler operation
		1.5	Identify the type of boiler and plan boiler operations according to procedures
		1.6	Identify appropriate personal protective equipment (PPE) in accordance with SOPs
		1.7	Identify suitable communication methods and confirm with appropriate personnel
2	**Start up boiler**	2.1	Apply risk prevention and risk control measures to the work area according to procedures
		2.2	Select communication equipment and inspect for serviceability
		2.3	Select all necessary equipment and inspect for operational effectiveness according to procedures, including establishing water level
		2.4	Check boiler visually for any damage or defects and report and record any found according to procedures with appropriate action taken
		2.5	Vent boiler to atmosphere prior to start-up, as required
		2.6	Carry out pre-start up checks on the boiler and bring the boiler online safely according to procedures
		2.7	Start up boiler according to procedures
		2.8	Identify maintenance requirements and any visual faults and report according to procedures
		2.9	Confirm, complete and log all maintenance and/or repairs and associated isolations and make the equipment serviceable

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3	**Monitor boiler operation**	3.1	Diagnose operating status of the boiler
		3.2	Maintain operating log clearly and accurately according to procedures
		3.3	Monitor boiler, valves, fittings and pressure gauges according to procedures
		3.4	Blow boiler water level gauges through both steam and water sides
		3.5	Test standby plant and equipment according to procedures
		3.6	Conduct boiler water quality tests, where required, and record the results according to procedures
		3.7	Adjust boiler water chemicals after tests, where appropriate and required according to procedures and notify downstream users, if necessary
		3.8	Activate the automatic blowdown and, where required, boiler is blown down to adjust total dissolved solids (TDS) levels to recommendations
		3.9	Communicate handover information regarding boiler status and operation clearly to relevant personnel according to procedures
		3.10	Respond immediately to any boiler emergency in accordance with procedures
4	**Shut down boiler**	4.1	Shut down the boiler for inspection according to procedures, as required
		4.2	Identify maintenance requirements and report any visual faults according to procedures
		4.3	Complete isolations associated with in-service maintenance according to procedures
		4.4	Clean boiler internally and externally to manufacturer recommendations and procedures, where required
		4.5	Complete boiler operating log for shutdown

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5	**Store boiler in shutdown mode**	5.1	Identify storage time and condition of storage, where required
		5.2	Store boiler in safe condition for access in accordance with manufacturer recommendations and procedures
		5.3	Test stored boiler water and chemicals, where required, and handle in accordance with procedures, where storage is for extended periods

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.

Boiler includes:

Fixed and modulating combustion controls and a single heat source. Operation includes a battery of boilers and boilers that have a single thermal or solar heat source.

Note: Boilers meeting the definition of ‘advanced boiler’ are excluded.

Standard boiler includes:

- vessel or an arrangement of vessels and interconnecting parts in which steam and vapour is generated or in which water or other liquid is heated above that of the atmospheric pressure by the application of:
  - fire
  - the products of combustion
  - electrical power
  - similar means
- fixed and modulating combustion controls, fixed and

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modulated air supply, a single fuel source and will have:

- boiler piping
- supports
- mountings
- valves
- gauges
- fittings
- controls
- boiler settings and directly associated equipment

Type of boiler includes one or more of the following:

- fire tube
- water tube
- once through boilers
- waste heat
- electrically heated
- novel or unique

Hazards include one or more of the following:

- asbestos lagging
- chemical hazards
- thermal hazards
- manual handling hazards
- machinery guard requirements
- hot exposed steam pipe
- leakage of steam
- leakage of fuel
- odour of gas
- fumes from a liquid chemical spill
- faulty/broken ladder or hand rail
- working at heights
- flammable liquids
- fire and explosion
- electrical hazards
- work area, including:
  - illumination
  - excessive noise from machinery
  - spillage of oil
  - rubbish and combustibles
  - obstruction

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Risk control methods include:	Risk control methods refer to the systematic process of eliminating or reducing the risk to personnel and property through the application of controls. It includes the application of the hierarchy of control: • elimination • substitution • isolation • engineering controls • administrative controls • personal protective equipment (PPE)
Appropriate standards include one or more of the following:	• legislation • codes of practice • manufacturer specifications • Australian Standards • technical standards (International) • industry standards (where applicable)
Procedures include one or more of the following:	• manufacturer guidelines (e.g. instructions, specifications or checklists) • industry operating procedures • workplace procedures (e.g. work instructions, operating procedures or checklists)
Equipment includes one or more of the following:	• gas monitoring equipment • water testing equipment • fire-fighting equipment • workplace first aid equipment • work platform and associated gear, including walkways
Communication methods include one or more of the following:	• verbal and non-verbal language • written instructions • signage • hand signals • listening • questioning to confirm understanding • appropriate worksite protocol

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Appropriate personnel includes one or more of the following:	• production workers • maintenance workers • supervisors and managers • other boiler operators • suppliers • colleagues
Records include one or more of the following:	• operating log books • maintenance records • records of faults and potential faults • isolation procedures • safe operating procedures • daily operating inspections • repairs carried out according to manufacturer recommendations and operating procedures • workplace record keeping requirements • details of any daily or periodic maintenance work • details of yearly programmed or additional maintenance work
Risk control measures include one or more of the following:	• barricades and controls • machine guarding • fall prevention • pedestrian controls • adequate illumination • noise controls • signage • PPE
PPE includes one or more of the following:	• thermally insulated gloves • hard hat protection • ear protection (muffs or plugs) • chemical resistant gloves and apron • respiratory devices • eye protection • working protective gloves • whole body fire-resistant clothing
Communication equipment includes one or more of the	• two-way radios • mobile phones

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following:

- intercoms
- landline telephones
- pagers
- satellite phones
- computers

Pre-start up checks include:

- testing warning lamps or visual warning indicators
- control panel checks
- checks of feedwater supply system
- fuel supply/heat source system
- operation and position of boiler valves
- combustion air supply system
- boiler water level
- essential fittings and gauges
- selection of PPE
- inspection and location of inspection and explosion doors (where applicable)
- identification of hazards and management of risks and maintenance problems
- fire-fighting equipment
- manufacturer recommendations and checklists
- relevant records and logs

Start-up includes:

- purge boiler furnace
- heat input
- warm-up reticulation system
- venting the boiler of air, where required
- steam traps and steam line purge system operations
- reticulation line pressure
- steam usage and supply

Maintenance includes:

- leaking steam pipe
- pressure gauge accuracy
- exposed electrical wiring
- defective illumination in the workplace
- leaking fuel pump gland
- leaks in high pressure feed line
- leaking gauge glass mounting
- leaking safety valve
- isolation procedures, hardware and equipment

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Faults include one or more of the following:

- abnormal operating conditions
- boiler tube failure
- feedwater supply and/or other major auxiliary loss
- wet steam
- high dissolved oxygen
- pH of water
- high conductivity
- actuator or valve mechanical or electrical fault/failure
- instrument failure
- steam leak

Diagnosed includes one or more of the following:

- senses, including:
  - audio
  - smell
  - touch
  - visual
- remote or local indicators and recorders
- computers and alarms, including:
  - visible
  - audible

Operating log includes:

- date and time of checking
- each check, examination and results
- printed and signed name of person who performed the checks
- date and time of any lockout or equipment malfunction
- results of tests on boiler or feedwater
- changes in operation

Valves and fittings include one or more of the following:

- safety valves
- gauge glasses
- main steam stop valve
- feedwater stop valve
- feed check valve
- blowdown valve
- steam side/line drain valves
- flame failure detection device
- water level controller

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- boiler steam pressure gauge

Monitored includes:

- water supply system
- checks of steam reticulation line pressure
- usage and supply of steam
- quality of steam
- combustion/heat source system and management
- feedwater system
- fuel system
- combustion air supply
- water level
- boiler steam pressure
- boiler and steam manifold valves (where fitted)
- soot blowers (where fitted)
- operation of control/safety devices, including control panels

Tested includes one or more of the following:

- response checks
- standby plant ‘cut in’ tests
- valve operating checks
- hydrostatic tests
- performance tests
- alarm and protection tests

Tests include one or more of the following:

- pH levels
- conductivity
- oxygen
- TDS
- hardness
- other contaminants

Chemicals include one or more of the following:

- oxygen scavenger
- feedwater additives
- other chemicals
- hardness
- condensate chemicals
- pH buffers

Handover includes:

- previous load requirements

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- maintenance issue, including equipment isolated for maintenance
- operational incidences
- read operating log
- general inspection of boiler to detect any defects
- accept responsibility of boiler
- noted equipment malfunctions
- required equipment tests

Emergencies include one or more of the following:

- tube failure
- loss of water level
- power failure
- inadequate housekeeping
- explosion
- fire
- bomb threat
- terrorism
- personal accidents
- chemical spills
- major steam leaks
- major water leaks and flooding
- natural disasters
- oil spills

Appropriate emergency response measures include one or more of the following:

- identification of emergency
- isolation of heat source
- selection and application of appropriate fire-fighting equipment and PPE
- notification of downstream users
- operation of boiler only when safe to do so
- notification of appropriate regulatory authorities, including Commonwealth, state, territory and boiler manufacturer

Shutdown includes:

- checks of water level
- cooling down process
- valve settings
- equipment isolation
- boiler pressure/vacuum
- fuel/heat source isolation in accordance with manufacturer recommendations

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- boiler post-purge

Storage mode includes:

- wet and dry storing
- open or closed position

Unit Mapping Information

Release 1. Supersedes and is equivalent to MSABLIC001 Licence to operate a standard boiler.

Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=d1287d36-dff4-4e9f-ad2c-9d6270054027

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Assessment Requirements for MSMBLIC001 Licence to operate a standard boiler

Modification History

Release 1. Supersedes and is equivalent to MSABLIC001 Licence to operate a standard boiler.

Performance Evidence

Evidence of competence in this unit must be relevant to and satisfy the requirements of the elements and performance criteria, and include demonstration of:

- following work instructions, SOPs and safe work practices
- complying with Commonwealth, state and territory work health and safety (WHS) legislation and regulations
- complying with Australian and industry standards, organisation workplace standards, policies and relevant codes of practice requirements at all times
- planning and preparing for work, including identifying potential hazards and implementing appropriate risk control measures
- identifying the type of standard boiler
- reading and interpreting maintenance records, operating logs and safety data sheets (SDS)
- conducting the appropriate pre-start up checks, including identifying all maintenance requirements and visual faults
- using appropriate tools, equipment and PPE in accordance with procedures
- completing all maintenance and rectification requirements in accordance with manufacturers' and workplace procedures, including recording/reporting requirements
- completing the start-up procedures and bringing the boiler online
- monitoring the boiler, including conducting relevant tests and activities and adjusting boiler water quality in accordance with procedures
- interpreting boiler operation tables and figures
- communicating handover of boiler status to appropriate personnel
- demonstrating emergency operating procedures
- identifying all boiler energy sources required to be isolated and made safe for maintenance, inspection and repairs
- applying boiler cleaning and storage techniques.

Knowledge Evidence

Evidence must be provided that demonstrates knowledge of:

- safe work practices and procedures and use of PPE
- Commonwealth, state and territory WHS/OHS legislation and approved codes of practice relevant to standard boiler operation

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- Australian and industry standards relevant to standard boiler operation
- basic principles of heat transfer and thermodynamics in relation to boiler operations
- boiler steam equipment operating principles and operating methods
- types and characteristics of feedwater systems and treatment
- types and use of equipment and fittings for operation and maintenance of boilers
- function, purpose and operation of main steam stop valve
- boiler auxiliary equipment characteristics and capabilities
- essential fittings required where more than one boiler is installed (e.g. battery of boilers)
- processes for confirming operational status of a boiler
- workplace communication techniques and procedures
- responsibilities for checking and testing boilers
- location and inspection procedures and techniques for inspection and explosion doors
- steam and boiler hazards for cold start and handover
- hierarchy of risk control
- type and limitations of corrective action and/or adjustments that can be made in response to routine boiler operation problems and emergencies
- various harmful energy sources in boiler operation and the means to effectively isolate these energy sources and make them safe
- modes of boiler storage and procedures for storing boiler in open or closed condition
- SDS and safe chemical handling and storage methods for boiler operation and cleaning
- procedures for cleaning boilers internally and externally, as required
- procedures for recording, reporting and maintenance of workplace records and information.

Assessment Conditions

- Assessments must be conducted by an assessor accredited for this high risk work (HRW) licence class in the Commonwealth/state/territory where the licence will be obtained (i.e. an assessor authorised by a Commonwealth/state/territory WHS/OHS regulator).
- Assessment processes and techniques must be appropriate to the language, literacy and numeracy requirements of the work being performed and all assessments must be conducted in the English language.
- Where possible, assessment of performance should be undertaken in the workplace and/or under realistic workplace conditions that typically reflect:
  - the use of full-scale equipment
  - performing tasks/activities within timelines that would be expected in a workplace
  - standard and authorised work practices, safety requirements and environmental constraints.
- Where this is not possible or where personal safety, plant operation 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.

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- Accredited assessors are responsible for ensuring that candidates have access to all tools, equipment, PPE, materials and documentation required, including relevant workplace procedures, product and manufacturing specifications.
- As a minimum, assessors must satisfy applicable regulatory requirements, which include 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=d1287d36-dff4-4e9f-ad2c-9d6270054027

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MSMBLIC002 Licence to operate an advanced boiler

Modification History

Release 1. Supersedes and is equivalent to MSABLIC002 Licence to operate an advanced boiler

Application

This unit specifies the outcomes required to operate an advanced boiler safely. This includes boiler start-up, handover, monitoring, shutdown and storage of a boiler.

This unit also covers the preparation for inspection procedures as specified in manufacturer recommendations, identification of maintenance requirements and relevant risk control measures.

This unit is based on the licensing requirements of Part 4.5 of the Model Work Health and Safety (WHS) Regulations, High Risk Work, and meets Commonwealth, state and territory high risk work licensing requirements. Any alteration to the unit content or outcomes would result in a unit that is not acceptable to WHS/Occupational Health and Safety (OHS) regulators for the purpose of licensing.

Pre-requisite Unit

Nil

Competency Field

Unit Sector

Boiler operation (licensed)

Elements and Performance Criteria

Elements describe the essential outcomes		Performance criteria describe the performance needed to demonstrate achievement of the element	
1	**Plan and prepare for work**	1.1	Follow standard operating procedures (SOPs)
		1.2	Comply with work health and safety (WHS)

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			requirements at all times
		1.3	Identify potential workplace hazards and appropriate risk control measures consistent with appropriate standards to ensure the safety of personnel and equipment
		1.4	Locate and review appropriate records to prepare for boiler operation
		1.5	Identify the type of boiler with associated equipment and plan boiler operations according to procedures
		1.6	Identify appropriate personal protective equipment (PPE) in accordance with SOPs
		1.7	Identify suitable communication methods and confirm with appropriate personnel
2	**Start up boiler**	2.1	Apply risk prevention and risk control measures to the work area according to procedures
		2.2	Select communication equipment and inspect for serviceability
		2.3	Select all necessary equipment and inspect for operational effectiveness according to procedures, including establishing water level
		2.4	Check boiler and associated equipment visually for any damage or defects and report and record any found according to procedures with appropriate action taken
		2.5	Vent boiler to atmosphere prior to start-up, as required
		2.6	Carry out pre-start up checks on the boiler and bring the boiler and associated equipment online safely according to procedures
		2.7	Start up boiler according to procedures
		2.8	Identify maintenance requirements and any visual faults and report according to procedures
		2.9	Confirm, complete and log all maintenance and/or repairs and associated isolations and make the equipment serviceable

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3	**Monitor boiler operation**	3.1	Diagnose operating status of the boiler and associated equipment
		3.2	Maintain operating log clearly and accurately according to procedures
		3.3	Monitor boiler, valves, fittings, pressure gauges combustion management systems, air heaters, superheaters and economisers (where fitted) according to procedures
		3.4	Blow boiler water level gauges through both steam and water sides
		3.5	Test standby plant and equipment according to procedures
		3.6	Conduct boiler water quality tests, where required, and record the results according to procedures
		3.7	Adjust boiler water chemicals after tests, where appropriate and required, according to procedures and notify downstream users, if necessary
		3.8	Activate the automatic blowdown and, where required, boiler is blown down to adjust total dissolved solids (TDS) levels to recommendations
		3.9	Communicate handover information regarding boiler status and associated equipment and operation clearly to relevant personnel according to procedures
		3.10	Respond immediately to any boiler emergency in accordance with procedures
4	**Shut down boiler**	4.1	Shut down the boiler and associated equipment for inspection according to procedures, as required
		4.2	Identify maintenance requirements and report any visual faults according to procedures
		4.3	Clean boiler and associated equipment internally and externally to manufacturer recommendations and procedures, where required
		4.4	Complete isolations associated with in-service

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			maintenance according to procedures
		4.5	Complete boiler operating log for shutdown
5	**Store boiler in shutdown mode**	5.1	Identify storage time and condition of storage, where required
		5.2	Store boiler and associated equipment in safe condition for access in accordance with manufacturer recommendations and procedures
		5.3	Test stored boiler water and chemicals, where required, and handle in accordance with procedures, where storage is for extended periods

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.

Boiler includes: Boilers covered by this unit are standard boilers and advanced boilers, including boilers defined in *AS 2593:2004 Safety management and supervision systems* and *AS 3873:2001 Pressure equipment – Operation and maintenance* and typically have a modulating combustion air supply and heat source.

Standard boiler includes:

- vessel or an arrangement of vessels and interconnecting parts in which steam and vapour is generated or in which water or other liquid is heated above that of the atmospheric pressure by the application of:
  - fire
  - the products of combustion

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- electrical power
- similar high temperature means

- fixed and modulating combustion controls, fixed and modulated air supply, a single fuel source and will have:
  - boiler piping
  - supports
  - mountings
  - valves
  - gauges
  - fittings
  - controls
  - boiler settings and associated equipment

Advanced boiler includes:

- vessel or an arrangement of vessels and interconnecting parts in which steam and vapour is generated or in which water or other liquid is heated above that of the atmospheric pressure by the application of:
  - fire
  - the products of combustion
  - electrical power
  - similar high temperature means
- fixed and modulating combustion controls, fixed and modulated air supply, multiple fuel sources, pre-heaters, superheaters and economisers and will have:
  - boiler piping
  - supports
  - mountings
  - valves
  - gauges
  - fittings
  - controls
  - boiler settings and directly associated equipment

Hazards include one or more of the following:

- asbestos lagging
- chemical hazards
- thermal hazards
- manual handling hazards
- machinery guard requirements
- hot exposed steam pipe
- leakage of steam

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- leakage of fuel
- odour of gas
- fumes from a liquid chemical spill
- faulty/broken ladder or hand rail
- working at heights
- flammable liquids
- fire and explosion
- electrical hazards
- work area, including:
  - illumination
  - excessive noise from machinery
  - spillage of oil
  - rubbish and combustibles
  - obstruction

Risk control methods include:

Risk control methods refer to the systematic process of eliminating or reducing the risk to personnel and property through the application of controls.

It includes the application of the hierarchy of control:

- elimination
- substitution
- isolation
- engineering controls
- administrative controls
- personal protective equipment (PPE)

PPE includes one or more of the following:

- thermally insulated gloves
- hard hat protection
- ear protection (muffs or plugs)
- chemical resistant gloves and apron
- respiratory devices
- eye protection
- working protective gloves
- whole body fire-resistant clothing

Appropriate standards include one or more of the following:

- legislation
- codes of practice
- manufacturer specifications
- Australian Standards

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	• technical standards (International) • industry standards (where applicable)
Procedures include one or more of the following:	• manufacturer guidelines (e.g. instructions, specifications or checklists) • industry operating procedures • workplace procedures (e.g. work instructions, operating procedures or checklists)
Equipment includes one or more of the following:	• gas monitoring equipment • water testing equipment • fire-fighting equipment • workplace first aid equipment • work platform and associated gear, including walkways
Communication methods include one or more of the following:	• verbal and non-verbal language • written instructions • signage • hand signals • listening • questioning to confirm understanding • appropriate worksite protocol
Appropriate personnel includes one or more of the following:	• production workers • maintenance workers • supervisors and managers • other boiler operators • suppliers • colleagues
Records include one or more of the following:	• operating log books • maintenance records • records of faults and potential faults • isolation procedures • safe operating procedures • daily operating inspections • repairs carried out according to manufacturer recommendations and operating procedures • workplace record keeping requirements

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- details of any daily or periodic maintenance work
- details of yearly programmed or additional maintenance work

Risk control measures include one or more of the following:

- barricades and controls
- machine guarding
- fall prevention
- pedestrian controls
- adequate illumination
- noise controls
- signage
- PPE

Communication equipment includes one or more of the following:

- two-way radios
- mobile phones
- intercoms
- landline telephones
- pagers
- satellite phones
- computers

Pre-start up checks include:

- testing warning lamps or visual warning indicators
- control panel checks
- checks of feedwater supply system
- fuel supply/heat source systems
- operation and position of boiler valves
- combustion air supply system
- boiler water level
- essential fittings and gauges
- selection of personal protective equipment
- inspection and location of inspection and explosion doors (where applicable)
- identification of hazards and management of risks and maintenance problems
- fire-fighting equipment
- manufacturer recommendations and checklists
- relevant records and logs

Associated equipment includes one or more of

- multiple fuel sources
- pre-heater
- superheater

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the following:

- economiser
- superheater safety valves
- economiser relief valves
- air heater
- feedwater heater
- attemperator
- main steam stop valve

Start-up includes:

- purge boiler furnace
- heat input
- warm-up reticulation system
- venting the boiler of air, as required
- steam traps and steam line purge system operations
- reticulation line pressure
- steam usage and supply
- superheater
- air heater
- feedwater heater
- economiser

Maintenance includes:

- leaking steam pipe
- pressure gauge accuracy
- exposed electrical wiring
- defective illumination in the workplace
- leaking fuel pump gland
- leaks in high pressure feed line
- leaking gauge glass mounting
- leaking safety valve
- isolation procedures, hardware and equipment

Faults include one or more of the following:

- abnormal operating conditions
- boiler tube failure
- feedwater supply and/or other major auxiliary loss
- wet steam
- high dissolved oxygen
- pH of water
- high conductivity
- actuator or valve mechanical or electrical fault/failure
- instrument failure
- steam leak

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- associated equipment failure

Diagnosed includes one or more of the following:

- senses, including:
  - audio
  - smell
  - touch
  - visual
- remote or local indicators and recorders
- computers and alarms, including:
  - visible
  - audible

Operating log includes:

- date and time of checking
- each check, examination and results
- printed and signed name of person who performed the checks
- date and time of any lockout or equipment malfunction
- results of tests on boiler or feedwater
- changes in operation

Valves and fittings include one or more of the following:

- safety valves
- gauge glasses
- main steam stop valve
- feedwater stop valve
- feed check valve
- blowdown valve
- steam side/line drain valves
- flame failure detection device
- water level controller
- boiler steam pressure gauge
- economiser relief valve
- superheater safety valve

Monitored includes:

- water supply system
- checks of steam reticulation line pressure
- usage and supply of steam
- quality of steam
- combustion/heat source system and management
- feedwater system and condensate returns
- fuel system

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- combustion air supply
- water level
- boiler steam pressure
- boiler and steam manifold valves
- soot blowers
- operation of control/safety devices, including control panels

Tested includes one or more of the following:

- response checks
- standby plant ‘cut in’ tests
- valve operating checks
- hydrostatic tests
- performance tests
- alarm and protection tests

Tests include one or more of the following:

- pH levels
- conductivity
- oxygen
- TDS
- hardness
- other contaminants

Chemicals include one or more of the following:

- oxygen scavenger
- feedwater additives
- other chemicals
- hardness
- condensate chemicals
- pH buffers

Handover includes:

- previous load requirements
- maintenance issue, including equipment isolated for maintenance
- operational incidences
- read operating log
- general inspection of boiler to detect any defects
- accept responsibility of boiler
- noted equipment malfunctions
- required equipment tests

Emergencies include one

- tube failure

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or more of the following:	• loss of water level • power failures • inadequate housekeeping • explosion • fire • bomb threat • terrorism • personal accidents • chemical spills • major steam leaks • major water leaks and flooding • natural disasters • oil spills
Appropriate emergency response measures include one or more of the following:	• identification of emergency • isolation of heat source • selection and application of appropriate fire-fighting equipment and PPE • notification of downstream users • operation of boiler only when safe to do so • notification of appropriate regulatory authorities, including Commonwealth, state, territory and boiler manufacturer
Shutdown includes:	• checks of water level • cooling down process • valve settings • equipment isolation • boiler pressure/vacuum • fuel/heat source isolation in accordance with manufacturer recommendations • boiler post-purge
Storage mode includes:	• wet and dry storing • open or closed position

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Unit Mapping Information

Release 1. Supersedes and is equivalent to MSABLIC002 Licence to operate an advanced boiler

Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=d1287d36-dff4-4e9f-ad2c-9d6270054027

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Assessment Requirements for MSMBLIC002 Licence to operate an advanced boiler

Modification History

Release 1. Supersedes and is equivalent to MSABLIC002 Licence to operate an advanced boiler

Performance Evidence

Evidence of competence in this unit must be relevant to and satisfy the requirements of the elements and performance criteria, and include demonstration of:

- following work instructions, SOPs and safe work practices
- complying with Commonwealth, state and territory work, health and safety (WHS) legislation and regulations
- complying with Australian and industry standards, organisation workplace standards, policies, relevant codes of practice requirements at all times
- planning and preparing for work, including identifying potential hazards and implementing appropriate risk control measures
- identifying the type of standard or advanced boiler and associated equipment
- reading and interpreting maintenance records, operating logs and safety data sheets (SDS)
- conducting the appropriate pre-start up checks, including identifying all maintenance requirements and visual faults
- using appropriate tools, equipment and PPE in accordance with procedures
- completing all maintenance and rectification requirements in accordance with manufacturers' and workplace procedures, including recording/reporting requirements
- completing the start-up procedures and bringing the boiler online
- monitoring the boiler and associated equipment, including conducting relevant tests and activities and adjusting boiler water quality in accordance with procedures
- interpreting advanced boiler operation tables and figures
- communicating handover of boiler status and associated equipment to appropriate personnel
- demonstrating emergency operating procedures
- identifying all boiler energy sources required to be isolated and made safe for maintenance, inspection and repairs
- applying advanced boiler cleaning and storage techniques.

Knowledge Evidence

Evidence must be provided that demonstrates knowledge of:

- safe work practices and procedures and use of PPE

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- Commonwealth, state and territory WHS/OHS legislation and approved codes of practice relevant to standard and advanced boiler operation
- Australian and industry standards relevant to standard and advanced boiler operation
- basic principles of heat transfer and thermodynamics in relation to standard and advanced boiler operation
- standard and advanced boiler operation steam equipment operating principles and operating methods
- types and characteristics of multiple fuel systems for standard and advanced boilers
- types and characteristics of feedwater systems and treatment, including de-aerator
- types and use of equipment and fittings for operation and maintenance of boilers
- function, purpose and operation of the following:
  - pre-heater
  - superheater
  - economiser
  - air heater
  - feedwater heater
  - attemperator
  - superheater safety valves
  - economiser relief valves
  - main steam stop valve
- standard and advanced boiler and auxiliary equipment characteristics and capabilities
- essential fittings required where more than one boiler is installed (e.g. battery of boilers)
- processes for confirming operational status of a boiler
- workplace communication techniques and procedures
- responsibilities for checking and testing advanced boilers
- location and inspection procedures and techniques for inspection and explosion doors
- steam and boiler hazards for cold start and handover
- hierarchy of risk control
- type and limitations of corrective action and/or adjustments that can be made in response to routine boiler operation problems and emergencies
- various harmful energy sources in standard and advanced boiler operation and the means to effectively isolate these energy sources and make them safe with particular consideration to advanced boilers
- modes of standard and advanced boiler storage and procedures for storing boiler in open or closed condition
- SDS and safe chemical handling and storage methods for boiler operation and cleaning
- procedures for cleaning boilers internally and externally, where required
- procedures for recording, reporting and maintenance of workplace records and information.

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Assessment Conditions

- Assessments must be conducted by an assessor accredited for this high risk work (HRW) licence class in the Commonwealth/state/territory where the licence will be obtained (i.e. an assessor authorised by a Commonwealth/state/territory WHS/OHS regulator).
- Assessment processes and techniques must be appropriate to the language, literacy and numeracy requirements of the work being performed and all assessments must be conducted in the English language.
- Where possible, assessment of performance should be undertaken in the workplace and/or under realistic workplace conditions that typically reflect:
  - the use of full-scale equipment
  - performing tasks/activities within timelines that would be expected in a workplace
  - standard and authorised work practices, safety requirements and environmental constraints.
- Where this is not possible or where personal safety, plant operation 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.
- Accredited assessors are responsible for ensuring that candidates have access to all tools, equipment, PPE, materials and documentation required, including relevant workplace procedures, product and manufacturing specifications.
- As a minimum, assessors must satisfy applicable regulatory requirements, which include 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=d1287d36-dff4-4e9f-ad2c-9d6270054027

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MSMENV172 Identify and minimise environmental hazards

Modification History

Release 1. Supersedes and is equivalent to MSAPMSUP172A Identify and minimise environmental hazards

Application

This unit of competency covers the skills and knowledge required to identify activities and/or materials that present an environmental threat and to take the appropriate action according to procedures.

This unit of competency applies to all personnel who are required to work within environmental regulatory requirements which are reflected in the organisation's policies and procedures.

It applies to an individual working alone or as part of a team or group and working in liaison with other team members and supervisors.

This unit of competency applies to all plants and areas of operation.

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

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1	Identify environmental threats	1.1	Recognise the type and severity of environmental threat posed by the materials and processes used for own work
		1.2	Identify ways materials used may enter the environment
		1.3	Identify sensitive features of the local environment and their impact on work practice and procedures
		1.4	Recognise abnormal or unacceptable emission levels
2	Identify workplace procedures and policies to minimise environmental threats	2.1	Identify workplace policy for environmental protection
		2.2	Identify environmental protection measures within standard operating procedures (SOPs) relevant to work
		2.3	State contact procedures for personnel involved in environmental response teams
3	Follow procedures to minimise environmental threats	3.1	Implement environmental protection measures in relevant procedures
		3.2	Report abnormal emissions/environmental issues to appropriate personnel
		3.3	Apply containment procedures in accordance with SOPs, where appropriate
		3.4	Implement waste management procedures and practices
		3.5	Follow safety procedures and use personal protective equipment (PPE)

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.

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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
- 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:

- personal protective equipment (PPE)
- spill kits

Emissions

Abnormal or unacceptable emission levels include one of more of the following:

- excessive noise
- light
- odours
- gases/vapours
- visible smoke/vapour
- liquid and solids

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- particulates
- fumes

Unit Mapping Information

Release 1. Supersedes and is equivalent to MSAPMSUP172A Identify and minimise environmental hazards

Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=d1287d36-dff4-4e9f-ad2c-9d6270054027

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Assessment Requirements for MSMENV172 Identify and minimise environmental hazards

Modification History

Release 1. Supersedes and is equivalent to MSAPMSUP172A Identify and minimise environmental hazards

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:

- recognise and report environmental threats
- communicate using in-plant reporting systems (verbal, electronic or written)
- select and use containment equipment
- select and use personal protective equipment (PPE).

Knowledge Evidence

Evidence must be provided that demonstrates knowledge of:

- organisation procedures, including:
  - environmental protection and reporting requirements
  - safety, emergency and hazard controls
- type and severity of environmental threats, including contribution to climate change and other macro threats that can arise from materials and work processes used
- environmental protection measures required to minimise threats
- types of emissions relevant to job role and permissible levels.

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

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  - 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

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MSMENV272 Participate in environmentally sustainable work practices

Modification History

Release 2. Equivalent. Minor edits for improved clarity. Range of conditions removed. Duplication between Performance Evidence and Performance Criteria removed. Assessment conditions updated.

Release 1. Supersedes and is equivalent to MSAENV272B Participate in environmentally sustainable work practices.

Application

This unit describes the skills and knowledge required to comply with environmental regulations, identify environment issues and minimise the risks of negative impact on work and carry out improvements in own work area.

This unit applies to operators and team members who are required to follow procedures to work in an environmentally sustainable manner.

This unit applies to all sectors of the manufacturing industry and members of its value chain. It may also be applied to all sections of an organisation, including office and warehouse. This unit will need to be contextualised for the industry sector, organisation and section.

This unit applies to an individual working alone or as part of a team 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

HSE

Elements and Performance Criteria

Elements	**Performance Criteria**
Elements describe the essential *outcomes.*	*Performance criteria describe the performance needed to demonstrate achievement of the element.*

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Elements	**Performance Criteria**
Elements describe the essential *outcomes.*	*Performance criteria describe the performance needed to demonstrate achievement of the element.*
1. Identify current resource use and environmental issues	1.1 Identify workplace environmental and resource efficiency issues 1.2 Identify resources used in own work role 1.3 Confirm current usage of resources
2. Comply with environmental regulations	2.1 Read and follow environmental policies and procedures to ensure compliance with federal, state/territory and local government laws, by-laws, regulations and mandated codes of practice, and codes and standards that the organisation applies voluntarily 2.2 Ask questions and seek clarification relating to environmental work requirements 2.3 Identify incidents, including breaches or potential breaches of environmental regulations and occurrences outside of standard procedures and report to appropriate personnel 2.4 Report environmental incidents using workplace forms and procedures
3. Seek opportunities to improve environmental practices and resource efficiency	3.1 Follow workplace procedures to improve environmental practices and resource efficiency 3.2 Make suggestions for improvements to environmental workplace practices and work plans

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 MSAENV272B Participate in environmentally sustainable work practices.

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Assessment Requirements for MSMENV272 Participate in environmentally sustainable work practices

Modification History

Release 2. Equivalent. Minor edits for improved clarity. Range of conditions removed. Duplication between Performance Evidence and Performance Criteria removed. Assessment conditions updated.

Release 1. Supersedes and is equivalent to MSAENV272B Participate in environmentally sustainable work practices.

Performance Evidence

There must be evidence the candidate has completed the tasks outlined in the elements and performance criteria of this unit, and:

- followed environmental policies and identified potential breaches of environmental regulations and suggested improvements within the limit of own authority.
-

Knowledge Evidence

There must be evidence the candidate has knowledge of:

- environmental sustainability issues relevant to organisation
- resource use and impact of inefficiencies associated with own work role
- environmental and resource efficiency policies and procedures for own work role
- environmental regulations and guidelines and their impact on own work role
- the environmental issues, hazards and risks associated with own work role
-

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:
  - environmental regulations, guidelines and procedures
  - workplace incident reporting procedures and forms.

Assessors must satisfy the NVR/AQTF mandatory competency requirements for assessors.

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MSMENV472 Implement and monitor environmentally sustainable work practices

Modification History

Release 1. Supersedes and is equivalent to MSAENV472B Implement and monitor environmentally sustainable work practices

Application

This unit of competency covers the skills and knowledge required to effectively analyse the workplace in relation to environmentally sustainable work practices, and to implement improvements and monitor their effectiveness.

This unit of competency applies to those who have responsibility for a specific area of work or who lead a work group or team. It addresses the knowledge, processes and techniques necessary to implement and monitor environmentally sustainable work practices, including the development of processes and tools.

It includes identifying areas for improvement, developing plans to make improvements, and implementing and monitoring improvements in environmental performance.

This unit of competency applies to all sectors of the manufacturing industry and members of its value chain. It may also be applied to all sections of an organisation, including office and warehouse. This unit will need to be appropriately contextualised as it is applied across an organisation and across different industry sectors.

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

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Competency Field

HSE

Unit Sector

Elements and Performance Criteria

Elements describe the essential outcomes		Performance criteria describe the performance needed to demonstrate achievement of the element	
1	**Investigate current practices in relation to resource usage**	1.1	Identify environmental regulations applying to the enterprise
		1.2	Assess procedures for assessing compliance with environmental regulations
		1.3	Collect information on environmental and resource efficiency systems and procedures and provide to the work group, as required
		1.4	Measure and record current resource usage by members of the work group
		1.5	Analyse and record current purchasing strategies
		1.6	Analyse current work processes to access information and data, and assist in identifying areas for improvement
2	**Set targets for improvements**	2.1	Seek input from stakeholders, key personnel and specialists
		2.2	Access external sources of information and data as required
		2.3	Evaluate alternative solutions to workplace environmental issues
		2.4	Set efficiency targets
3	**Implement performance**	3.1	Source and use techniques/tools to assist in achieving targets

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	improvement strategies	3.2	Apply continuous improvement strategies to own work area of responsibility, and communicate ideas and possible solutions to the work group and management
		3.3	Integrate environmental and resource efficiency improvement plans for own work group with other operational activities and implement them
		3.4	Seek suggestions and ideas about environmental and resource efficiency management from stakeholders and act upon them where appropriate
		3.5	Implement costing strategies to fully value environmental assets
4	**Monitor performance**	4.1	Document outcomes and communicate reports on targets to key personnel and stakeholders
		4.2	Evaluate strategies and environmental performance, including breaches or potential breaches of regulations and occurrences outside of standard procedure which may lead to lower environmental performance
		4.3	Set new targets and investigate and apply new tools and strategies
		4.4	Promote successful strategies and reward participants where possible

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.

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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
- *ISO 14001:2015 Environmental management systems*

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:

- 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

Unit Mapping Information

Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=d1287d36-dff4-4e9f-ad2c-9d6270054027

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Assessment Requirements for MSMENV472 Implement and monitor environmentally sustainable work practices

Modification History

Release 1. Supersedes and is equivalent to MSAENV472B Implement and monitor environmentally sustainable work practices

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:

- investigate/analyse resource usage
- evaluate improvement alternatives and set targets
- implement improvements within the limit of own authority
- monitor the performance of improvements.

Knowledge Evidence

Evidence must be provided that demonstrates knowledge of:

- relevant environmental and resource efficiency issues, specific to industry practices, including:
  - contribution to climate change and other macro threats that can arise from materials and work processes used
  - regulated environmental issues
  - issues relevant to licencing conditions
- best practice environmental approaches relevant to own area of responsibility
- methods for measuring and calculating resource usage.

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
  - 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
  - will typically include the use of appropriate tools, equipment and documents

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    - 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

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MSMENV672 Develop workplace policy and procedures for environmental sustainability

Modification History

Release 1. Supersedes and is equivalent to MSAENV672B Develop workplace policy and procedures for environmental sustainability

Application

This unit of competency covers the skills and knowledge required to develop and implement a workplace sustainability policy, including the modification of the policy to suit changed circumstances.

This unit of competency applies to team leaders/supervisors/managers who are required to develop approaches to environmental sustainability within workplaces, including the development and implementation of policy.

It includes communicating with relevant stakeholders, developing and monitoring sustainability policies and reviewing and improving sustainability policies.

This unit of competency applies to all sectors of the manufacturing industry. It may also be applied to all sections of an organisation, including the office and warehouse. This unit will need to be appropriately contextualised as it is applied across an organisation and across different industry sectors.

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.

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

Pre-requisite Unit

Nil

Competency Field

HSE

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Unit Sector

Elements and Performance Criteria

Elements describe the essential outcomes		Performance criteria describe the performance needed to demonstrate achievement of the element	
1	Develop workplace sustainability policy	1.1	Define the scope of sustainability policy
		1.2	Identify and consult with stakeholders during the policy development process
		1.3	Review the environmental sustainability strategies relevant to all stages of work covered by the policy
		1.4	Make recommendations for policy options based on likely effectiveness, timeframes and cost
		1.5	Develop policy that reflects the organisation's commitment to sustainability as an integral part of the business planning, and as a business opportunity
		1.6	Agree upon appropriate methods of implementation
2	Communicate the policy	2.1	Promote the policy, including its expected outcome to key stakeholders
		2.2	Inform those involved in implementing the policy as to outcomes expected, activities to be undertaken and responsibilities assigned
3	Implement the policy	3.1	Develop and communicate procedures to help implement the policy
		3.2	Employ strategies for implementation of policy in resource efficiency
		3.3	Establish recording systems for tracking changes in sustainability approaches and assign responsibilities
4	Review policy	4.1	Record outcomes and provide feedback to key personnel

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implementation		and stakeholders
	4.2	Investigate success or otherwise of policy
	4.3	Monitor records to identify trends that may require remedial action to implemented policy and procedures
	4.4	Modify policy and or procedures as required to ensure improvements are made

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
- *ISO 14001:2015 Environmental management systems*

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:

- work instructions
- standard operating procedures (SOPs)

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- safe work method statements (SWMS)
- 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 MSAENV672B Develop workplace policy and procedures for environmental sustainability

Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=d1287d36-dff4-4e9f-ad2c-9d6270054027

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Assessment Requirements for MSMENV672 Develop workplace policy and procedures for environmental sustainability

Modification History

Release 1. Supersedes and is equivalent to MSAENV672B Develop workplace policy and procedures for environmental sustainability

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:

- scope and develop an integrated sustainability policy and procedure within an enterprise
- raise awareness among stakeholders and those involved in implementing the policy of expected outcomes
- develop a workable implementation strategy
- ensure policy implementation is monitored, reviewed and modified where

Knowledge Evidence

Evidence must be provided that demonstrates knowledge of:

- relevant policy development and implementation processes and practices
- principles, practices and available tools and techniques of sustainability management relevant to the particular industry context.

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 is best done from a report and/or folio of evidence drawn from:
  - a single project which provides sufficient evidence of the requirements of all the elements and performance criteria
  - multiple smaller projects which together provide sufficient evidence of the requirements of all the elements and performance criteria.
- A third-party report, or similar, may be needed to testify to the work done by the individual, particularly when the project has been done as part of a project team.
- 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.

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- Knowledge evidence may be collected concurrently with performance evidence 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

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MSMOPS100 Use equipment

Modification History

Release 1. Supersedes and is equivalent to MSAPMOPS100A Use equipment

Application

This unit of competency covers the skills and knowledge required to use an item of equipment which is operated with limited application of knowledge.

This unit of competency applies to all persons who have the responsibility for using equipment where they are not required to have any significant understanding of the equipment or the process. Where greater levels of understanding and interaction are required, then the appropriate *MSMOPS2# series* operations unit of competency should be used.

In a typical situation the operator may be using, for example, a packaged chilled water refrigeration unit to supply chilled water to the plant. The operator uses simple controls and responds to fault alarms built into the equipment. Even though the equipment may be very sophisticated (e.g. using high-speed compressors and computerised monitoring and control equipment) the operator interface is relatively simple. The operator is expected to simply regard this equipment as a black box – they may know what it does, but little detail on how it does it.

This unit of competency has been written to apply to fluids as well as solids and may be applied wherever ‘black box’ equipment is used.

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.

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

Pre-requisite Unit

Nil

Competency Field

Operations

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Unit Sector

Elements and Performance Criteria

Elements describe the essential outcomes		Performance criteria describe the performance needed to demonstrate achievement of the element	
1	Follow workplace procedures	1.1	Find out what is required for the job
		1.2	Identify and follow appropriate procedures
		1.3	Complete all reporting as required.
		1.4	Recognise and report hazards and anything unusual
2	Monitor and use the equipment/ process	2.1	Turn the equipment on and off as required by procedure
		2.2	Monitor equipment throughout the job using measurements, readings and senses as appropriate.
		2.3	Recognise routine problems
		2.4	Take appropriate corrective 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.

Procedures All operations must be performed in accordance with relevant

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procedures.

Procedures are written, verbal, visual, computer-based or in some other form, and include one or more of the following:

- 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

Equipment

Equipment includes one or more of the following:

- compressors (packaged plant)
- refrigeration (packaged plant)
- fans
- blowers
- portable generators
- air conditioning units
- other equipment with similar operating requirements

Hazards

Hazards include one or more of the following:

- slip/trip hazards
- heat, smoke, dust or other atmospheric hazards
- electricity
- gas
- gases and liquids under pressure
- structural hazards
- equipment or product mass
- noise, rotational equipment or vibration
- limited head spaces or overhangs
- flammability and explosivity
- hazardous products and materials
- sharp edges, protrusions or obstructions, swarf and scrap
- extreme weather
- other hazards that might arise

Hazard controls

Hazard controls include one or more of the following:

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- use of personal protective equipment (PPE)
- ensuring equipment is in safe condition
- reporting potential hazards to appropriate personnel

Routine problems

Routine problems must be reported and corrective action taken according to relevant procedures.

Routine problems include one or more of the following:

- deviations from standard/desired conditions
- alarms

Corrective actions

Corrective actions include one or more of the following:

- reporting to an appropriate person
- taking action specified in the procedure

Appropriate personnel

Appropriate personnel include one or more of the following:

- supervisor
- more senior operator
- other designated personnel

Reporting methods

Reporting methods include one or more of the following:

- verbal
- written

Using equipment

Using equipment includes monitoring, adjusting/changing the equipment as required, by one or more of the following:

- manually in the plant
- using local controller in the plant
- using the process control system in the control room

Unit Mapping Information

Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=d1287d36-dff4-4e9f-ad2c-9d6270054027

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Assessment Requirements for MSMOPS100 Use equipment

Modification History

Release 1. Supersedes and is equivalent to MSAPMOPS100A Use equipment

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:

- recognise and control hazards
- monitor key variables as relevant to the equipment, including one or more of:
  - equipment production outputs
  - equipment operating conditions
- recognise deviations and/or abnormal operating conditions and take specified action/alert the appropriate individuals
- identify routine problems and report or take corrective action, where appropriate.

Knowledge Evidence

Evidence must be provided that demonstrates knowledge of:

- hazards and hazard controls specific to the work area
- correct methods of operating and controlling the equipment
- process parameters, limits and alarms (e.g. temperature, pressure, flow and pH) to the extent relevant to operating this equipment

routine problems that may arise in the job/work environment and corrective action appropriate to the problem cause.

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 operation of an operating plant
  - will typically include the use of an appropriate industrial item of equipment requiring demonstration of operation, start and stop procedures 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.

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- 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

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MSMOPS101 Make measurements

Modification History

Release 2. Equivalent. Minor edits for improved clarity. Range of conditions removed. Duplication between Performance Evidence and Performance Criteria removed. Assessment conditions updated.

Release 1. Supersedes and is equivalent to MSAPMOPS101A Make measurements

Application

This unit describes the skills and knowledge required to use physical and/or chemical measuring equipment to make or take routine measurements and keep records related to the measurements.

This unit applies to an individual working alone or as part of a team and working in liaison with other shift team members and the control room operator, as appropriate.

This unit applies to all routine measurements within manufacturing and similar environments.

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

Operations

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 appropriate measurements	1.1 Select appropriate measuring equipment 1.2 Identify units of measurement to be used and the detail required 1.3 Check measuring equipment is in calibration
2. Perform and record	2.1 Identify and take account of relevant external factors

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Elements	Performance Criteria
Elements describe the essential *outcomes.*	*Performance criteria describe the performance needed to demonstrate achievement of the element.*
measurements	2.2 Perform measurements using appropriate techniques 2.3 Compare measurements against the range of expected results 2.4 Self-check numerical information for accuracy and correctness 2.5 Record the result accurately in the appropriate format and level of detail
3. Respond to routine problems in accordance with procedures	3.1 Identify known problems that occur during the measurement 3.2 Identify and act on causes of routine problems 3.3 Log problems 3.4 Identify non-routine problems and report to appropriate 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 MSAPMOPS101A Make measurements.

Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=d1287d36-dff4-4e9f-ad2c-9d6270054027

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Assessment Requirements for MSMOPS101 Make measurements

Modification History

Release 2. Equivalent. Minor edits for improved clarity. Range of conditions removed. Duplication between Performance Evidence and Performance Criteria removed. Assessment conditions updated.

Release 1. Supersedes and is equivalent to MSAPMOPS101A Make measurements.

Performance Evidence

There must be evidence the candidate has completed the tasks outlined in the elements and performance criteria of this unit, and:

- performed and recorded at least 1 of the following workplace measurements:
  - extent
  - dimension
  - quantity
  - mass
  - capacity
  - capability
- responded to routine and non-routine measuring problems in accordance with organisation procedures
-

Knowledge Evidence

There must be evidence the candidate has knowledge of:

- basic units of measurement, including
  - kilogram
  - metre
  - second
- types of measuring devices, including how, when and why they are used
- purpose of equipment calibration and methods of checking equipment is within calibration
- routine problems that may arise in the work environment and corrective action and reporting procedures appropriate to the problem cause.
-

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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, including:
  - measuring devices and equipment
  - calibration 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=d1287d36-dff4-4e9f-ad2c-9d6270054027

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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

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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

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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.

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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

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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

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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.

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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

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MSMOPS200 Operate equipment

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 MSAPMOPS200A Operate equipment.

Application

This unit describes the skills and knowledge required to operate a single unit operation/plant item/item of equipment. It is for items of equipment/plant items/unit operations which are not otherwise covered in this Training Package and may be organisation specific.

This unit applies to a person who has the responsibility for undertaking the routine operation of an individual unit of equipment or a plant item. Typically, the person will be an ‘outside’ or ‘field’ operator; however, the unit may also be applied to ‘panel’ or ‘control room’ operators.

This unit 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.

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

Operations

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 work	1.1 Receive and give shift handover 1.2 Identify and clarify work requirements 1.3 Identify and control hazards

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Elements	**Performance Criteria**
Elements describe the essential *outcomes.*	*Performance criteria describe the performance needed to demonstrate achievement of the element.*
	1.4 Coordinate with appropriate personnel 1.5 Check for recent work undertaken on plant item 1.6 Note any outstanding and/or incomplete work 1.7 Check operational status of equipment or plant item
2. Operate equipment or plant item	2.1 Identify the types of equipment or plant item and its duty 2.2 Complete routine checks, logs and paperwork taking appropriate action on unexpected readings 2.3 Adjust equipment or plant item as required, appropriate to type of equipment or plant item and duty 2.4 Change rate, grade or specification smoothly as required 2.5 Charge or discharge equipment or plant item as required
3. Recognise and take appropriate action on abnormal situations	3.1 Monitor equipment or plant item frequently and critically throughout shift using measured or indicated data and senses as appropriate 3.2 Identify impacts of any changes upstream and downstream 3.3 Identify impacts of upstream and/or downstream changes on the equipment or plant item 3.4 Identify situations which may require action 3.5 Resolve routine problems 3.6 Take appropriate actions on other abnormal situations to make safe and have the situation resolved
4. Isolate and de-isolate equipment or plant item in accordance with procedures	4.1 Complete any required pre-start checks 4.2 Start up, shut down and changeover equipment or plant item according to the equipment or plant type and duty in liaison with other personnel 4.3 Isolate equipment or plant item 4.4 Make equipment or plant item safe for required work 4.5 Check equipment or plant item is ready to be returned to service 4.6 Prepare equipment or plant item for return to service

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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 MSAPMOPS200A Operate equipment.

Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=d1287d36-dff4-4e9f-ad2c-9d6270054027

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Assessment Requirements for MSMOPS200 Operate equipment

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 MSAPMOPS200A Operate equipment.

Performance Evidence

There must be evidence the candidate has completed the tasks outlined in the elements and performance criteria of this unit, and:

- checked, operated and monitored the output of at least 1 of the following:
  - single unit operation
  - plant item
  - item of equipment
- identified routine problems and applied known solutions.
-

Knowledge Evidence

There must be evidence the candidate has knowledge of:

- hazards that may arise in the job and work environment
- principles of operation of equipment or plant, including:
  - impact of type and duty
  - potential effects of variations in raw materials and equipment operation in relation to quality of product
  - factors which may affect product quality or production output and appropriate remedies
- reasons for checking process control panels and reporting readings which do not conform to the work instructions.
-

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:
  - equipment or plant item and start up, operation and shut down procedures
  - regulations, guidelines and procedures

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    - workplace hazard reporting procedures and forms
- 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

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MSMOPS201 Cut polymer materials

Modification History

Release 1. Supersedes and is equivalent to MSAPMOPS201A Cut polymer materials

Application

This unit of competency covers the skills and knowledge required to prepare and operate specialised equipment and apply procedures to cut polymer materials, such as sheet, pipe or rod, to size, shape or to a pattern.

The operator will be required to make products to meet quality standards and workplace requirements and resolve routine problems according to procedures.

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.

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	Check work	1.1	Identify work requirements

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	requirements	1.2	Identify product, materials and equipment requirements for job
		1.3	Identify and control hazards
		1.4	Check with supervisor/appropriate person if requirements are not in accordance with usual practice
2	Conduct pre-cutting operations in accordance with procedures	2.1	Check raw materials are correct
		2.2	Mark out/lay out job for cutting taking account of directional properties in materials as appropriate
		2.3	Undertake other pre-cutting requirements in accordance with procedures
3	Cut to requirements	3.1	Cut materials using cutting tools/equipment in accordance with procedures
		3.2	Monitor dimensions, shape, quality and quantity of cuts
		3.3	Collect material which is able to be recycled or reused, separate and dispose of waste and scrap
4	Resolve routine problems	4.1	Identify likely problems during the operation/task
		4.2	Resolve routine problems in accordance with procedures
		4.3	Take appropriate action on other problems
		4.4	Complete required records 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.

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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

Work requirements

Work requirements will be determined from one or more of the following:

- job/shop orders
- plans/specifications
- procedures
- directions from authorised persons
- meeting (e.g. toolbox meeting)
- any similar instructions provided for the smooth running of the plant.

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:

- guillotines

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- power saws
- jig saws
- band saws
- thermal cutting devices
- hand tools
- controllers, such as programmable logic controller (PLC), for tools and equipment fitted

Hazards

Hazards include one or more of the following:

- heat, smoke, dust or other atmospheric hazards
- electricity
- gas
- equipment failures
- industrial (machinery, equipment and product)
- equipment or product mass
- noise, rotational equipment or vibration
- fire and explosion
- 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 resolved by applying known solutions.

Routine problems are predictable and include one or more of:

- incorrect pattern and marking errors
- equipment wear and breakage, temperature variations, loss of power or drives, controller sequence and timer issues
- sequencing problems

Known solutions are drawn from one or more of:

- procedures
- training
- remembered experience

Non-routine problems must be reported according to according to relevant

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procedures.

Records Records include one or more of the following:

- log books/sheets
- electronic records
- job/work sheets
- other records used for the smooth running of the plant.

Unit Mapping Information

Release 1. Supersedes and is equivalent to MSAPMOPS201A Cut polymer materials

Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=d1287d36-dff4-4e9f-ad2c-9d6270054027

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Assessment Requirements for MSMOPS201 Cut polymer materials

Modification History

Release 1. Supersedes and is equivalent to MSAPMOPS201A Cut polymer 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 and demonstrate the ability to:

- set up and operate equipment according to procedures
- identify hazards and apply relevant hazard controls
- monitor equipment operation and product quality
- identify and take action on problems in accordance with procedures
- cut polymer materials to correct size, shape or pattern
- apply known solutions to routine problems
- complete workplace forms.

Knowledge Evidence

Evidence must be provided that demonstrates knowledge of:

- hazards that may arise in the job/work environment
- potential effects of variations in raw materials and equipment operation in relation to quality of product
- factors which may affect product quality or production output and appropriate remedies
- directional properties of polymers as relevant to the job
- different types of materials and their behaviour when cut
- different cutting equipment and suitability for materials
- controls of cutting 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 operation of an operating plant

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  - will typically include a supervisor/third-party report or other evidence, 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
  - will typically include the use of an appropriate industrial item of equipment requiring demonstration of operation 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

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MSMOPS202 Fabricate polymer products

Modification History

Release 1. Supersedes and is equivalent to MSAPMOPS202A Fabricate polymer materials

Application

This unit of competency covers the skills and knowledge required to fabricate products using polymer materials to a specified shape and resolve routine problems using defined procedure.

This unit of competency applies to operators who are involved in the fabrication of polymer materials, typically sheet, pipe or rod, into specified shapes, and applies to an individual working alone or as part of a team or group and working in liaison with other shift team members.

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	Check work requirements	1.1	Identify work requirements
		1.2	Check materials and equipment meet requirements for job
		1.3	Interpret plans, patterns, designs or specifications

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		1.4	Recognise requirements which may not be in accordance with usual practice
		1.5	Ask questions of appropriate person to confirm unusual practice
		1.6	Identify hazards associated with the job and apply appropriate hazard controls
		1.7	Complete records as required
2	Conduct pre-fabrication operations as required	2.1	Set up tools, jigs, fixtures and equipment ready for job
		2.2	Identify materials, patterns and consumables required
		2.3	Check hazard controls are operational and appropriate
		2.4	Mark out/lay out job for fabrication taking account of directional properties of polymer as appropriate
		2.5	Undertake other pre-fabrication requirements in accordance with procedures
		2.6	Identify non-conformances and report to appropriate personnel
3	Form materials to shape	3.1	Arrange materials in order prior to forming
		3.2	Form and fix material into shape as required
		3.3	Measure and check product is to specifications, making adjustments as required
		3.4	Trim and finish joints and fabricated product as required
4	Resolve routine problems	4.1	Identify likely faults that occur during the operation/task
		4.2	Identify and take action on causes of routine faults in accordance with procedures
		4.3	Ensure appropriate records are maintained
		4.4	Identify non-routine problems and report to designated person

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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 requirements Work requirements will be determined from one or more of the following:

- job/shop orders
- plans/specifications
- procedures
- other processes used in an enterprise

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:

- work instructions
- standard operating procedures (SOPs)
- safe work method statements (SWMS)
- temporary instructions
- any similar instructions provided for the smooth running of the plant

Polymer fabrication Polymer fabrication includes one or more of the following:

- forming processes, such as bending, heating, holding in a jig fixture or other methods of achieving the required shape
- mechanical, chemical, thermal or other fixing methods

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Tools and equipment

Tools and equipment include one or more of the following:

- power saws, jig saws and thermal cutting devices
- drilling, riveting, bolting and stitching
- hand tools
- relevant personal protective equipment (PPE)

Hazards

Hazards include one or more of the following:

- heat, smoke, dust or other atmospheric hazards
- equipment failures
- industrial (machinery, equipment and product)
- equipment or product mass
- noise, rotational equipment or vibration
- hazardous products and materials
- unauthorised personnel
- sharp edges, protrusions or obstructions, swarf and scrap
- slippery surfaces, spills or leaks
- extreme weather
- fibres (airborne and handled)
- manual handling
- power tools, leads and power supplies
- 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:

- pattern incorrect
- marking errors
- wear and breakage
- loss of power or drives
- controller sequence and timer issues
- sequencing problems

Known solutions are drawn from one or more of:

- procedures
- training
- remembered experience

Non-routine problems must be reported according to according to

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relevant procedures.

Unit Mapping Information

Release 1. Supersedes and is equivalent to MSAPMOPS202A Fabricate polymer materials

Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=d1287d36-dff4-4e9f-ad2c-9d6270054027

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Assessment Requirements for MSMOPS202 Fabricate polymer products

Modification History

Release 1. Supersedes and is equivalent to MSAPMOPS202A Fabricate polymer materials

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:

- check the requirements of the job
- identify hazards associated with the job/work environment and apply appropriate hazard controls
- prepare for the fabrication as required
- complete the fabrication to specification
- apply known solutions to routine problems.

Knowledge Evidence

Evidence must be provided that demonstrates knowledge of:

- hazards and hazard controls specific to the types of fabrication undertaken
- different types of materials used and their behaviour when joined
- different forming and joining equipment used and suitability for materials
- types and causes of known problems for the types of fabrication undertaken
- corrective action appropriate to the problem cause.

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
  - will typically include the use of appropriate industrial equipment 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.

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- 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

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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

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	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

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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

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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

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- 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

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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

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- 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.

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- As a minimum, assessors must satisfy the Standards for Registered Training Organisations 2015 assessor requirements.

Links

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MSMOPS244 Lay out and cut materials

Modification History

Release 1. Supersedes and is equivalent to MSAPMOPS244A Layout and cut materials

Application

This unit of competency covers the skills and knowledge required to cut materials to shape. It applies to materials used in plastics fabrication, rubber and other manufacturing industries.

This unit of competency applies to an operator who is involved in the fabrication of materials which first need to be cut into specified shapes. The operator will be required to lay out and cut materials to meet quality standards and workplace requirements and resolve routine problems according to procedures.

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.

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	Check work	1.1	Identify work requirements

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	requirements	1.2	Check product, materials and equipment meet requirements for job
		1.3	Interpret plans, patterns, designs or specifications
		1.4	Recognise requirements which may not be in accordance with usual practice
		1.5	Ask questions of appropriate person to confirm unusual practice
		1.6	Ensure housekeeping is to requirements
		1.7	Identify and control hazards
		1.8	Complete logs and records in accordance with procedures
2	Conduct pre-start checks as required	2.1	Set up tools, jigs, fixtures and equipment ready for production
		2.2	Collect materials, patterns and consumables required
		2.3	Identify non-conformances and report as required
3	Lay out and cut materials to shape in accordance with procedures	3.1	Develop 3-D or complex shapes into 2-D patterns
		3.2	Place material ready to be cut and apply pattern
		3.3	Allow for grain or other directionality in material to suit product
		3.4	Cut material to pattern, marking points for further processes
		3.5	Collect material which is able to be recycled or reused, separate and dispose of waste and scrap
4	Resolve routine problems	4.1	Recognise problems that occur
		4.2	Resolve routine problems
		4.3	Take appropriate action on other problems

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4.4 Complete required records 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

Work requirements

Work requirements will be determined from one or more of the following:

- job/shop orders
- plans/specifications
- procedures
- directions from authorised persons
- meetings (e.g. toolbox meeting)
- any similar instructions provided for the smooth running of the plant

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:

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- work instructions
- standard operating procedures (SOPs)
- safe work method statements (SWMS)
- temporary instructions
- any similar instructions provided for the smooth running of the plant

Hazards

Hazards include one or more of the following:

- equipment failures
- industrial (machinery, equipment and product)
- equipment or product mass
- fire
- 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:

- pattern incorrect
- marking errors
- wear and breakage
- loss of power or drives
- controller sequence, timer issues
- sequencing problems

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

Tools and equipment

Tools and equipment include one or more of the following:

- guillotines
- power saws

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- jig saws
- band saws
- thermal cutting devices
- hand tools
- relevant personal protective equipment (PPE)

Unit Mapping Information

Release 1. Supersedes and is equivalent to MSAPMOPS244A Layout and cut materials

Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=d1287d36-dff4-4e9f-ad2c-9d6270054027

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Assessment Requirements for MSMOPS244 Lay out and cut materials

Modification History

Release 1. Supersedes and is equivalent to MSAPMOPS244A Layout and cut 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 and demonstrate the ability to:

- set up and operate equipment according to procedures
- select and prepare materials to meet job specifications
- identify hazards and apply relevant hazard controls
- lay out and cut one (1) complex shape, or multiple simple shapes which demonstrate at least two (2) of:
  - product with a simple 3-D shape
  - material with directional properties
- cut material requiring marking for future processing
- read and interpret typical product specifications, job sheets, procedures, basic machine control panels, material labels and safety information as provided to operators
- apply known solutions to routine problems
- complete workplace forms.

Knowledge Evidence

Evidence must be provided that demonstrates knowledge of:

- hazards that may arise in the job/work environment and their controls
- factors which may affect product quality or production output and appropriate remedies
- different cutting, forming and joining equipment and suitability for materials
- controls of cutting equipment
- routine problems their cause and resolution.

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 operation of an operating plant

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    - will typically include a supervisor/third-party report or other evidence, 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
    - 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

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MSMOPS301 Treat corrosion

Modification History

Release 1. Supersedes and is equivalent to MSAPMOPS301A Treat corrosion

Application

This unit of competency covers the skills and knowledge required to examine an object for corrosion, confirm the appropriateness of any corrosion treatment and monitor the treatment process.

The object may be any type of plant, equipment or structure in any service environment, such as a plant/factory area, a well head, an item of major infrastructure or a pipeline covering thousands of kilometres. This unit applies to situations where the corrosion is treated using a surface coating.

Corrosion typically refers to any electrochemical process leading to the decay of metal but also includes decay processes in non-metals.

This unit of competency applies to technicians. The technician will be required to examine substrates and the design of the object to be treated to determine the preparation and protection which might need to be applied and confirm that the treatment specification is appropriate and to monitor that treatment process.

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.

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

Pre-requisite Unit

Nil

Competency Field

Operations

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Unit Sector

Elements and Performance Criteria

Elements describe the essential outcomes		Performance criteria describe the performance needed to demonstrate achievement of the element	
1	Determine nature of corrosion	1.1	Inspect object
		1.2	Observe service environment and note likely causes of, and vulnerability to, corrosion
		1.3	Identify the type of corrosion present or likely to occur
2	Interpret surface preparation and coating specification	2.1	Examine specified surface preparation method
		2.2	Examine specification for prepared surface
		2.3	Examine specified surface protection method
		2.4	Examine specification for finished surface protection
		2.5	Identify critical aspects of specifications
3	Confirm appropriateness of surface preparation and coating specification	3.1	Compare specification with existing or likely corrosion situation
		3.2	Confirm that the specification is appropriate for the situation
		3.3	Clarify any discrepancies between specification and expected treatment and take appropriate action
		3.4	Complete any required documentation
4	Monitor treatment process	4.1	Identify hazards arising from the preparation and protection treatments
		4.2	Specify appropriate hazard controls and ensure they are implemented
		4.3	Monitor the progress of the treatment

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4.4 Recognise situations which might require a change to hazard controls or specifications

4.5 Take the required actions to resolve the identified situations

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

All operations to which this unit applies are subject to stringent health, safety and environment (HSE) requirements, which may be imposed through state/territory or Federal legislation, and these must not be compromised at any time. Where there is an apparent conflict between performance criteria and HSE requirements, the HSE requirements take precedence.

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

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- work instructions
- standard operating procedures (SOPs)
- safe work method statements (SWMS)
- temporary instructions
- any similar instructions provided for the smooth running of the plant

Hazards

Hazards include one or more of the following:

- heat, smoke, dust or other atmospheric hazards
- structural hazards
- industrial (machinery, equipment and product)
- 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

Appropriate actions

Appropriate actions include one or more of the following:

- determining problems needing action
- determining possible fault causes
- developing solutions to problems which do not have a known solution
- following through items initiated until final resolution has occurred
- reporting problems outside area of responsibility to designated person

Non-routine problems

Non-routine problems are unexpected problems, or variations of previous problems and include one or more of the following:

- plant/process condition makes intended approach inappropriate
- weather affects intended approach
- surface preparation reveals hidden issues
- work is not conforming to specification
- permit conditions change or are inappropriate for work to be undertaken

Operational

Operational knowledge includes one or more of:

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knowledge

- procedures
- training
- technical information, such as journals and engineering specifications
- remembered experience
- relevant knowledge obtained from appropriate people

Unit Mapping Information

Release 1. Supersedes and is equivalent to MSAPMOPS301A Treat corrosion

Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=d1287d36-dff4-4e9f-ad2c-9d6270054027

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Assessment Requirements for MSMOPS301 Treat corrosion

Modification History

Release 1. Supersedes and is equivalent to MSAPMOPS301A Treat corrosion

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:

- observe and inspect service environment to identify:
  - type of corrosion present
  - likely causes of corrosion
  - vulnerability to corrosion
- identify hazards and apply relevant hazard controls
- read and interpret product specifications, job sheets, procedures, material labels and safety information
- analyse proposed treatment for appropriateness
- complete workplace forms/reports
- communicate effectively with team/work group, supervisors and other personnel
- apply operational knowledge to non-routine problems.

Knowledge Evidence

Evidence must be provided that demonstrates knowledge of:

- duty of care obligations
- relevant organisational procedures
- physics and chemistry relevant to corrosion in metals and non-metals
- relevant coating/lining types and application methods
- hazards that may arise in the job/work environment, including:
  - their possible causes
  - potential consequences
  - appropriate risk controls
- costs and hazards of corrosion
- impacts of preparation and coating variables, including:
  - blast media type/size/shape
  - temperature during/after application
  - pressure of spray
  - pH
- non-routine problems that may arise, the range of possible causes and processes to develop solutions

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- major preparation and protection methods, their typical applications and how to troubleshoot problems.

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 is best done from a report and/or folio of evidence drawn from:
  - a single project which provides sufficient evidence of the requirements of all the elements and performance criteria
  - multiple smaller projects which together provide sufficient evidence of the requirements of all the elements and performance criteria.
- A third-party report, or similar, may be needed to testify to the work done by the individual, particularly when the project has been done as part of a project team.
- 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
  - demonstration of skills
  - industry based case studies/scenarios
  - ‘what ifs’.
- Knowledge evidence may be collected concurrently with performance evidence 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.

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MSMOPS363 Organise on-site work

Modification History

Release 1. Supersedes and is equivalent to MSAPMOPS363A Organise on site work

Application

This unit of competency covers the skills and knowledge required to organise and prepare for on-site work in a field situation, such as a remote mine site or large industrial complex where extensive permit or clearance systems exist.

The operator will be required to plan the work, ensure permits and other arrangements are in place to allow the on-site work to proceed safely, and set-up the tools, equipment and materials at the site.

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.

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	Plan the work	1.1	Review the requirements of the work

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		1.2	Arrange all necessary permits and permissions for site inspections and work
		1.3	Examine the site where the work will take place
		1.4	Identify plant and equipment isolations
		1.5	Identify hazards and risk controls
		1.6	Plan to minimise downtime, economically use materials and meet quality specifications
		1.7	Plan work, including sequences, times, process stages, engineering controls and personal protective equipment (PPE) requirements
		1.8	Prepare all necessary documentation and finalise the permissions and approvals for conducting the work
2	Prepare equipment, tools and materials	2.1	Identify equipment, tools and materials required
		2.2	Arrange for supply of all tools, equipment and materials
		2.3	Arrange for transport to site of all equipment, tools and materials
3	Set up work location	3.1	Assemble and check materials and tools for suitability for purpose
		3.2	Establish required communication with site personnel
		3.3	Establish a safe work area
		3.4	Establish isolations and tag/lock out as required
		3.5	Check tools, equipment and materials against site situation and conditions

Foundation Skills

This section describes those language, literacy, numeracy and employment skills that are essential to performance.

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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:

- work permits
- 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

Work requirements

Work requirements are determined from one or more of the following:

- work orders
- specifications
- job descriptions
- designs

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- other documents

On-site work

On-site work is done in situ, not in a factory or workshop, and includes one or more of the following:

- conveyor belt splicing and repairs
- rubber lagging of conveyor drums
- rubber lining of tanks
- polymer piping systems installation or repairs
- polymer constructions (e.g. fume cupboards or signs)
- refractory lining
- concrete casting

Isolations

Isolations include one or more of the following:

- power supply
- tag locations
- process materials
- energy sources and
- equipment isolation system

Safe work area

Safe work area includes areas for one or more of the following:

- scaffolding
- lifting gear
- lay down area
- work area
- other equipment in appropriate locations

Tools and equipment

Tools and equipment include one or more of the following:

- manual handling aids
- hand winches
- portable power generators and vulcanising equipment
- knives and other cutting instruments
- portable hoists/lifting equipment not requiring any special permits or licences
- spanners, wrenches and hammers
- power operated hand tools, such as drills, cutting disks and sanders
- specialised tools for the job
- relevant PPE

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Hazards

Hazards include one or more of the following:

- manual handling hazards
- hand tools and handheld power tools (e.g. knife, cutting and grinding disk 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

Non-routine problems

Routine problems must be resolved by applying known solutions.

Non-routine problems must be resolved by applying operational knowledge to develop new solutions, either individually or in collaboration with relevant experts, to:

- determine problems needing action
- determine possible fault causes
- develop solutions to problems which do not have a known solution
- follow through items initiated until final resolution has occurred
- report problems outside area of responsibility to designated person

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Non-routine problems are unexpected problems, or variations of previous problems and include one or more of:

- lack of accessibility
- equipment isolations
- logistics of materials and equipment to work site
- variations in materials and/or contamination of materials

Operational knowledge includes one or more of:

- procedures
- training
- technical information such as journals, engineering specifications
- remembered experience
- relevant knowledge obtained from appropriate people

Unit Mapping Information

Release 1. Supersedes and is equivalent to MSAPMOPS363A Organise on site work

Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=d1287d36-dff4-4e9f-ad2c-9d6270054027

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Assessment Requirements for MSMOPS363 Organise on-site work

Modification History

Release 1. Supersedes and is equivalent to MSAPMOPS363A Organise on site 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 and must include the ability to:

- identify job requirements and site conditions and plan the work
- sequence and schedule work tasks and stages to maximise efficiency and meet quality specifications
- select and arrange all equipment and materials for the site and set up tools, equipment and materials on site
- identify hazards and apply relevant hazard controls
- read and interpret work specifications, work orders, job sheets and material labels
- communicate effectively with team/work group and other personnel at the site
- apply operational knowledge to non-routine problems.

Knowledge Evidence

Evidence must be provided that demonstrates knowledge of:

- organisational procedures, including:
  - work permit systems
  - 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
- hierarchy of controls
- work flow sequences and materials demand
- factors and potential effects of variations in raw materials and equipment operation in relation to quality of product
- planning process, including breaking the work down into steps and stages
- products, materials and material characteristics.

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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.

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Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=d1287d36-dff4-4e9f-ad2c-9d6270054027

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MSMOPS400 Optimise process/plant area

Modification History

Release 1. Supersedes and is equivalent to MSAPMOPS400A Optimise process/plant area

Application

This unit of competency covers the skills and knowledge required to optimise the process performance of a complete process, plant area or system. It requires optimising a more significant portion of a plant than would be required for one of the PMAOPS3## series. It also requires a more strategic approach to the optimisation than the routine, day-to-day optimisation undertaken as a routine part of plant operation. The optimisation may, or may not involve capital expenditure.

It includes ensuring that the process/plant area complies with health, safety and environment (HSE) requirements, that process, plant and equipment improvement is planned and carried out, and that problems are solved to meet operational needs and ensure that production of finished goods meets customer requirements. It includes all items of equipment and unit operations which form part of the production process of a complete area.

This unit of competency requires the application of detailed operational and process knowledge, including the principles of operation of equipment, and the chemistry and/or physics and/or biology/biochemistry of changes to materials occurring during processing. It embodies a significant breadth and depth of technical knowledge and process understanding which is applied to process improvement.

This competency is typically performed by a senior operator, team leader or frontline manager.

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

Pre-requisite Unit

Nil

Competency Field

Operations

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Unit Sector

Elements and Performance Criteria

Elements describe the essential outcomes		Performance criteria describe the performance needed to demonstrate achievement of the element	
1	Analyse and evaluate current plant, equipment and processes	1.1	Compare actual process, plant and equipment performance with requirements and/or historical data/records and/or design performance
		1.2	Identify abnormal or sub-optimal process, plant and equipment performance
		1.3	Identify hazards associated with the plant and equipment
		1.4	Collect and evaluate product, materials and/or process records to determine possible causes for sub-optimal performance
		1.5	Use appropriate techniques to rank possible causes from most to least probable cause
2	Develop plan for corrective and/or optimisation action	2.1	Analyse causes to determine appropriate corrective action
		2.2	Predict the impact of a change in one unit/area on other related plant units/areas
		2.3	Predict the impact of a change on HSE performance
		2.4	Develop measurable objectives and evaluate alternatives
		2.5	Identify requirements to implement change
		2.6	Consult with stakeholders regarding planned changes and impacts
		2.7	Develop optimisation plan taking account of hazards identified and HSE implications and communicate to appropriate personnel
		2.8	Evaluate optimisation action to determine measures of effectiveness

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3	Coordinate corrective and/ or optimisation action plan	3.1	Coordinate all appropriate unit areas and operations in order to rectify problem causes in process, plant and equipment performance
		3.2	Initiate and/or implement all required corrective/optimisation actions
		3.3	Communicate corrective/optimisation outcomes to all relevant personnel
		3.4	Record and maintain log of all relevant information
4	Develop continuous improvement strategies	4.1	Identify opportunities to continuously improve performance of process/plant area
		4.2	Develop recommendations for continual improvement of process, plant and equipment effectiveness
		4.3	Consult with appropriate personnel and implement continuous improvement strategies
		4.4	Document implementation of continuous improvement strategies

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)

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- industry codes of practice and guidelines
- environmental regulations and guidelines
- Australian and other standards
- licence and certification requirements

All operations to which this unit applies are subject to stringent HSE requirements, which may be imposed through state/territory or federal legislation, and these must not be compromised at any time. Where there is an apparent conflict between performance criteria and HSE requirements, the HSE requirements take precedence.

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:

- equipment start-up, operation and shutdown procedures
- calibration and maintenance schedules
- quality manuals and procedures
- organisation recording and reporting procedures
- material, production and product specifications
- 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

Process optimisation

Process optimisation requires application of detailed operational and process knowledge to address one or more of the following:

- starting material quality
- yield maximisation
- throughput maximisation
- energy efficiency
- use of utilities
- labour utilisation
- overall cost
- efficient use of equipment

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- reducing downtime
- minimisation of waste and rework
- improved workplace layout and work flow

Unit Mapping Information

Release 1. Supersedes and is equivalent to MSAPMOPS400A Optimise process/plant area

Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=d1287d36-dff4-4e9f-ad2c-9d6270054027

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Assessment Requirements for MSMOPS400 Optimise process/plant area

Modification History

Release 1. Supersedes and is equivalent to MSAPMOPS400A Optimise process/plant area

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 and interpret information from a range of internal and external sources
- use analytical techniques to identify cause of a complex problem
- determine corrective actions to optimise the condition of the process, plant and equipment
- plan and coordinate corrective/optimisation actions and related changes that may be required
- develop written plans
- complete documentation
- identify and control hazards by applying the hierarchy of control as part of the optimisation process
- distinguish between:
  - optimum and marginal performance of the plant
  - effective and marginal performance corrections and actions
- communicate and consult with stakeholders at all levels
- read and interpret technical information and relevant regulatory requirements
- develop and implement continuous improvement strategies.

Knowledge Evidence

Evidence must be provided that demonstrates knowledge of:

- hazards that may arise in the job/work environment, including:
  - their possible causes
  - potential consequences
  - appropriate risk controls
- relevant technical theory of the plant area
- an in depth understanding of plant and process across the entire plant area being optimised
- process parameters and limits, including:
  - temperature
  - pressure
  - flow
  - pH

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- effects of variations in process conditions and materials
- functions and principles of operation of equipment in the production process
- chemistry and/or physics and/or biology/biochemistry relevant to changes to materials during processing.

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 is best done from a report and/or folio of evidence drawn from:
  - a single project which provides sufficient evidence of the requirements of all the elements and performance criteria
  - multiple smaller projects which together provide sufficient evidence of the requirements of all the elements and performance criteria.
- It is desirable that this evidence comes from implemented optimisation projects. However, where the project does not receive sanction to be implemented, or is otherwise not implemented, then sufficient evidence may be able to be obtained from a detailed implementation plan and a simulated implementation.
- A third-party report, or similar, may be needed to testify to the work done by the individual, particularly when the project has been done as part of a project team.
- Assessment should occur in operational workplace situations. Where this is not possible, or practical, 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.
- Knowledge evidence may be collected concurrently with performance evidence 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

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MSMOPS401 Trial new process or product

Modification History

Release 1. Supersedes and is equivalent to MSAPMOPS401A Trial new process or product

Application

This unit of competency covers the skills and knowledge required to take a lead technical role in the trialling of a new or significantly altered product or process. The new/changed product/process has been independently developed and its development is not part of this unit.

The unit of competency applies to a person in a technician role in a plant or a similar role. The technician is expected already to be a technical expert in that part of the plant/process where the trial is being conducted and be able to operate and control all equipment required for the trial. The technician is often the most technically competent member of an operational team. As such, they may not have the 'hands on' role of operating items of equipment; but they are required to have the competence to direct the operation of equipment as appropriate throughout the trial.

Typically the technician will be part of a team during the trial and will work in conjunction with a process/product development expert, such as a chemist or engineer and liaise and cooperate with other members of the team.

Trialling refers to the scale-up and other development steps required to take a new product or process from its design/laboratory trials to full commercial operation on a plant. Trialling may be done on a pilot plant where available and/or on a full scale plant.

This unit of competency does not apply to minor modifications to existing products or processes. Similarly it does not apply to a technician or operator taking part in such trials and/or who is simply following directions from a technician, chemist, engineer, supervisor or manager.

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

Pre-requisite Unit

Nil

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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	Contribute to the selection of equipment/ process conditions	1.1	Liaise with appropriate technical experts
		1.2	Interpret properties of materials and desired product characteristics
		1.3	Interpret technical specifications/drawings of plant requirements
		1.4	Recommend equipment/ancillary equipment appropriate for the materials, products and conditions
		1.5	Recommend process conditions appropriate for the equipment, materials and product characteristics
		1.6	Recommend feed rates/order/condition appropriate to the process conditions, equipment, materials and product characteristics
		1.7	Ensure hazard identification and analysis procedures are completed, including consultation with stakeholders, and findings included in plan
		1.8	Ensure recommendations meet the identified need
2	Prepare for trials	2.1	Determine the availability of resources required, such as materials, equipment, people and skills
		2.2	Estimate time required for trial
		2.3	Liaise with relevant stakeholders
		2.4	Schedule trial at a convenient time

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		2.5	Develop documentation for the trial
		2.6	Identify potential hazards and required hazard control procedures by applying the hierarchy of control
		2.7	Determine permit and other authorisation requirements and special safety and storage requirements
		2.8	Verify decisions with appropriate experts/stakeholders
		2.9	Ensure people with adequate skills are available for the trial
3	Conduct trials	3.1	Ensure hazard controls are implemented prior to commencement
		3.2	Run trials
		3.3	Maintain communication with all relevant personnel
		3.4	Closely monitor critical parameters
		3.5	Recognise actual and potential problems
		3.6	Make adjustments to process conditions as required during trial
		3.7	Sample and test product as required
		3.8	Record and report performance data
		3.9	Ensure all materials, products and waste are handled correctly
		3.10	Leave plant in a condition suitable for routine production to recommence
4	Evaluate results and identify modifications	4.1	Interpret data from trial
		4.2	Identify factors which might be related to low rates or low charge amounts
		4.3	Recommend modifications and improvements required
		4.4	Develop and check standard operating procedures (SOPs)

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4.5 Complete documentation and report to appropriate personnel

4.6 Ensure all relevant staff have required skill levels for the introduction of the new process

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

All operations to which this unit applies are subject to stringent health, safety and environment (HSE) requirements, which may be imposed through state/territory or federal legislation, and these must not be compromised at any time. Where there is an apparent conflict between performance criteria and HSE requirements, the HSE requirements take precedence.

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:

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- emergency procedures
- work instructions
- SOPs
- safe work method statements (SWMS)
- formulas/recipes
- batch sheets
- temporary instructions
- any similar instructions provided for the smooth running of the plant

Technical experts

Technical experts include one or more of the following:

- manufacturers
- chemists
- engineering personnel
- designers
- WHS advisors
- maintenance personnel
- potential customers

Non-routine problems

Routine problems must be resolved by applying known solutions.

Non-routine problems must be resolved by applying operational knowledge to develop new solutions, either individually or in collaboration with relevant experts, to:

- determine problems needing action
- determine possible fault causes
- develop solutions to problems which do not have a known solution
- follow through items initiated until final resolution has occurred
- report problems outside area of responsibility to designated person

Non-routine problems are unexpected problems, or variations of previous problems and include one or more of the following:

- mixing is poor
- materials do not behave as expected
- process/reaction does not proceed/proceeds too slowly
- process/reaction proceeds too quickly/runs away
- yield is low
- quality is out of specification
- process is unstable
- instrumentation is not sufficiently sensitive/too sensitive

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- variable catalyst activity
- surging flow/pressure

Operational knowledge includes one or more of the following:

- procedures
- training
- technical information, such as journals and engineering specifications
- remembered experience
- relevant knowledge obtained from appropriate people

Hazard analysis procedures

Hazard analysis procedures must be undertaken, however, it is not required that the candidate conducts the procedures. Hazard analysis procedures include one or more of the following:

- job safety analysis (JSA)/job hazard analysis (JHA)
- hazard and operability (HAZOP) studies
- hazard analysis (HAZAN) studies
- similar company specified procedures

Unit Mapping Information

Release 1. Supersedes and is equivalent to MSAPMOPS401A Trial new process or product

Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=d1287d36-dff4-4e9f-ad2c-9d6270054027

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Assessment Requirements for MSMOPS401 Trial new process or product

Modification History

Release 1. Supersedes and is equivalent to MSAPMOPS401A Trial new process or 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 demonstrate the ability to:

- analyse technical information from a range of sources
- determine recommendations for new process or product, including:
  - materials
  - equipment
  - process and process conditions
  - required variations in process variables
- plan the trials
- conduct trials
- communicate and liaise with people at a range of levels about technical matters
- write technical documentation, including specifications and procedures required for the trial
- ensure formal hazard analysis procedures are undertaken
- recognise early warning signs of equipment/processes or potential problems needing attention
- isolate the causes of problems to an item of equipment within the plant system
- identify any additional skills needs.

Knowledge Evidence

Evidence must be provided that demonstrates knowledge of:

- organisation procedures
- relevant technical theory of the plant area
- chemistry and/or physics and/or biology/biochemistry relevant to changes to materials during processing
- effects of variations in process conditions and materials
- routine and non-routine problems that may arise, the range of possible causes and processes to develop solutions
- methods of changing rate and the advantages and disadvantages of each
- methods of controlling other process variables and the advantages and disadvantages of each.

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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 is best done from a report and/or folio of evidence drawn from:
  - a single project which provides sufficient evidence of the requirements of all the elements and performance criteria
  - multiple smaller projects which together provide sufficient evidence of the requirements of all the elements and performance criteria.
- The trial may, or may not be a success.
- A third-party report, or similar, may be needed to testify to the work done by the individual, particularly when the project has been done as part of a project team.
- Assessment should occur in operational workplace situations. Where this is not possible or practical, 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.
- Knowledge evidence may be collected concurrently with performance evidence 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

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MSMOPS601 Design equipment and system modifications

Modification History

Release 1. Supersedes and is equivalent to MSAPMOPS601A Design equipment and system modifications

Application

This unit of competency covers the skills and knowledge required to design equipment and system modifications in a manufacturing situation. This unit is typically performed by high-level staff working as part of a design, development and implementation team and taking a lead technical role.

It does not include the design of equipment requiring specialist engineering skills or regulatory licensing, although it may include working with a person with this skill/licence.

This unit of competency applies to people who design modifications to equipment or systems, typically used for production. The modification may be to improve productivity, improve reliability, reduce waste (muda), reduce cost or other reasons. The competency can apply to the design of equipment/system modifications associated with product changes or improvements and/or establishment of a new production line/product. Typically it will be to meet a specified end use. This will involve working closely with a range of management and operations personnel and requires balancing the business, operational and technical sides of the modified equipment/system. This unit of competency applies to the technical expert. The competency is applied under limited guidance in line with a broad plan, budget or strategy. It will typically involve capital expenditure.

This unit competency is typically performed by senior technologists working in liaison with other technical experts, operations management, operators and other relevant people with whom they would work as part of a (possibly ad hoc) team.

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

Pre-requisite Unit

Nil

Competency Field

Operations

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Unit Sector

Elements and Performance Criteria

Elements describe the essential outcomes		Performance criteria describe the performance needed to demonstrate achievement of the element	
1	Assess requirements	1.1	Establish modification or design requirement
		1.2	Establish design concepts
		1.3	Establish design limitations
		1.4	Consult with specialists/experts as required
2	Evaluate options	2.1	Define options
		2.2	Determine most appropriate modification
		2.3	Confirm selected option with appropriate personnel in accordance with workplace procedures
3	Design modifications	3.1	Design modification to meet end use specifications/standards and all legislative or regulatory requirements
		3.2	Verify design in accordance with enterprise procedures
		3.3	Check the modifications will not compromise health, safety and environment (HSE) performance
		3.4	Determine required outcome tests and results to establish conformance to requirements
4	Coordinate design implementation and testing in accordance with enterprise	4.1	Initiate implementation of the design/modification
		4.2	Coordinate implementation of the design/modification
		4.3	Assess design outcome test results

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	requirements	4.4	Assess any required variations to the design
		4.5	Prepare documentation to meet enterprise requirements
5	Maintain records	5.1	Maintain records of design and modification outcomes in accordance with enterprise 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
- relevant Australian design standards
- workers' compensation legislation and regulation

Procedures All operations must be performed in accordance with relevant procedures.

Procedures are written, verbal, visual, computer-based or in some

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other form, and include one or more of the following:

- all work instructions
- standard operating procedures (SOPs)
- formulas/recipes
- batch sheets
- temporary instructions
- any similar instructions provided for the smooth running of the plant
- good operating practice as may be defined by industry codes of practice (e.g. Responsible Care)

Modification/design requirements

Modification/design requirements include consideration of the following factors:

- production requirements
- facility requirements
- HSE requirements
- sustainability requirements
- other factors relevant to the job/work environment

Design concepts

Design concepts include at a minimum:

- process
- material
- quantity
- cost
- outcome

Design limitations

Design limitations will be determined through consideration of:

- codes
- regulations
- technical documentation
- other factors relevant to the job/work environment.

Design

The design is to be for the modification of process plant/equipment.

Design must include:

- design research and consultation with internal or external specialists

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- assessment and evaluation of design concepts
- design implementation and testing of modifications

Unit Mapping Information

Release 1. Supersedes and is equivalent to MSAPMOPS601A Design equipment and system modifications

Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=d1287d36-dff4-4e9f-ad2c-9d6270054027

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Assessment Requirements for MSMOPS601 Design equipment and system modifications

Modification History

Release 1. Supersedes and is equivalent to MSAPMOPS601A Design equipment and system modifications

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:

- interpret design requirements
- evaluate design options against modification/design requirements
- assess and evaluate design concepts
- implement and test modifications
- apply technical skills, including performing technical calculations
- conduct tests and prepare drawings/documentation
- communicate effectively within the workplace, including liaising with other departments and consultation with internal or external specialists
- establish or interpret procedures, where required
- determine report requirements and present information in appropriate formats.

Knowledge Evidence

Evidence must be provided that demonstrates knowledge of:

- appropriate design techniques
- relevant Australian (or other) design standards
- relevant regulatory requirements and codes of practice
- HSE considerations in relation to equipment/system design
- workplace requirements
- reporting/recording processes
- internal and external stakeholders and sources of expertise
- enterprise production processes, facility and materials and how they relate to equipment/system design.

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 is best done from a report and/or folio of evidence drawn from:

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  - a single project which provides sufficient evidence of the requirements of all the elements and performance criteria
  - multiple smaller projects which together provide sufficient evidence of the requirements of all the elements and performance criteria.
- It is desirable that this evidence comes from implemented design projects. However, where the project does not receive sanction to be implemented, or is otherwise not implemented, then sufficient evidence may be able to be obtained from a detailed implementation plan and a simulated implementation.
- A third-party report, or similar, may be needed to testify to the work done by the individual, particularly when the project has been done as part of a project team.
- Assessment should use a real project in an operational workplace.
- Knowledge evidence may be collected concurrently with performance evidence 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

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MSMPCI101 Adapt to work in industry

Modification History

Release 1. Supersedes and is equivalent to MSAPCI101A Adapt to work in industry

Application

This unit covers the fundamental knowledge and skills needed to adapt to the workplace when taking up employment within the manufacturing industry. It includes following industry and workplace guidelines and procedures in a day-to-day work context, as well as appropriate work behaviour.

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.

The 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 the 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

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Unit Sector

Elements and Performance Criteria

Elements describe the essential outcomes		Performance criteria describe the performance needed to demonstrate achievement of the element	
1	Manage own learning	1.1	Consider and articulate own personal goals or vision
		1.2	Identify opportunities for learning new ideas and techniques in relation to personal goals
		1.3	Recognise personal learning needs and skill gaps
		1.4	Identify opportunities for skills development activities in liaison with relevant personnel
		1.5	Access and apply learning tools and practices to the job
		1.6	Take advantage of on-the-job and off-the-job learning opportunities
2	Adapt to and demonstrate appropriate work practice	2.1	Identify and interpret work requirements with advice from appropriate persons
		2.2	Use appropriate dress and behaviour in the workplace
		2.3	Identify and balance work and personal priorities
		2.4	Apply time management strategies to work duties
		2.5	Tailor interactions with others to take into account different backgrounds, cultures and languages
3	Work within organisational requirements	3.1	Identify organisational requirements and key activities of the workplace
		3.2	Identify and apply relevant workplace policies and guidelines to work undertaken, including work health and safety (WHS) requirements
		3.3	Interpret the range of organisational values and cultural norms

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		3.4	Discuss and clarify any uncertainties with key personnel
4	Identify the sectors of the industry	4.1	Identify the main sectors of the manufacturing industry, their key activities and the way in which they interrelate
		4.2	Clarify the roles and responsibilities of the manufacturing industry
		4.3	Identify key industry representatives and their roles
		4.4	Identify current issues or events impacting on the industry
5	Identify industry sector products and services	5.1	Identify the products provided by the industry sector
		5.2	Identify the services provided by the industry sector
		5.3	Identify appropriate standards of service across the industry sector
		5.4	Clarify quality standards for products and services as identified by the industry

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.

Skill gaps	Skills gaps relevant to work place requirements include one or more of the following: • physical capacity skills

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- workplace technology skills, such as business equipment, computer technology, machinery, hand tools, and security systems
- numeracy and literacy skills
- customer service skills
- communication skills, such as listening and understanding, speaking clearly/directly, reading and writing
- technical skills

Skill development activities

Skill development activities include one or more of the following:

- information technology (IT) courses
- human resources programs
- coaching and mentoring programs
- having the chance to learn a new task or to operate a new piece of equipment or workplace technology
- participating in external or internal training programs
- guided workplace experience

Learning tools and practices

Learning tools and practices include one or more of the following:

- note taking
- reviewing manuals and training guides
- discussion
- practice
- observation
- trial and error
- a combination of any of these

On-the-job opportunities

On-the-job opportunities include one or more of the following:

- filling in for a co-worker in a new area
- attending talks or seminars arranged by the workplace
- shadowing another co-worker in a different area
- receiving on-the-job training and supervised practice

Off-the-job opportunities

Off-the-job opportunities include one or more of the following:

- taking a course with a training provider
- attending conferences or seminars

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- attending site visits with a supervisor
- participating in workplace social events
- participating in community events

Appropriate **dress and behaviour**

Appropriate dress and behaviour includes:

- personal dress and presentation
- demeanour and attitude displayed to customers and fellow employees

Time management strategies

Time management strategies include one or more of the following:

- being punctual
- goal setting
- balancing work and personal priorities or agendas
- prioritisation of required tasks or activities
- planning daily or weekly work
- overcoming procrastination
- dealing with interruptions (contingency planning)
- organising own work environment

Organisational requirements

Organisational requirements include:

- organisational policies and guidelines
- common organisational practices
- performance plans
- WHS policies, procedures and programs

Workplace policies and guidelines

Workplace policies and guidelines include, but are not limited to:

- attendance
- punctuality
- standards for health and fitness
- obeying orders
- confidentiality
- dress codes
- alcohol and drug restrictions
- personal safety and duty of care related to WHS
- terms and conditions of employment

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Organisational values

Organisational values include one or more of the following:

- innovation
- community responsibility
- environment responsibility

Cultural norms

Cultural norms include:

- manners
- meanings specific to the language of the workplace
- history
- workplace etiquette

Main sectors of the industry

Main sectors of industry include:

- textiles, clothing and footwear
- furniture
- chemical manufacturing
- plastics and rubber products manufacturing
- maintenance and engineering
- manufacture of glass or concrete products

Roles and responsibilities of the industry

The roles and responsibilities of the industry include:

- providing quality products and services
- providing quality customer service
- providing proper training to those in the industry

Key industry representatives

Key industry representatives include:

- industry associations
- enterprises
- unions
- legislative bodies

Current issues or events include

Current issues or events include:

- economic
- environmental
- political

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- technological
- supply and demand

Industry products

Industry products are the outcomes of manufacturing processes and include one or more of the following:

- clothing and footwear
- concrete and glass products
- tyres and plastic car components
- electronic components
- metal products

Industry services

Industry services include one or more of:

- customer support
- product advice
- health and diet advice
- delivery services
- consulting services
- warrantees and/or guarantees

Service standards

Service standards include one or more of the following:

- developing and maintaining product and service knowledge
- identifying customer needs and expectations correctly
- meeting reasonable needs and request of customers within acceptable time frames
- taking opportunities to enhance the quality of products and services
- dealing with conflict situations
- responding to customer complaints
- maintaining a positive and cooperative manner
- establishing relationships with customers
- following appropriate hygiene and safety procedures
- referring difficult complaints to appropriate persons

Quality standards

Quality standards include one or more of the following:

- consistency standards
- quality specifications
- time requirements
- meeting customer requirements

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Unit Mapping Information

Release 1. Supersedes and is equivalent to MSAPCI101A Adapt to work in industry

Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=d1287d36-dff4-4e9f-ad2c-9d6270054027

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Assessment Requirements for MSMPCI101 Adapt to work in industry

Modification History

Release 1. Supersedes and is equivalent to MSAPCI101A Adapt to work in industry

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:

- consistently apply required knowledge and skills when adapting to different workplace requirements, contexts and environments
- follow workplace work health and safety (WHS) and environmental protection procedures and responsibilities
- consistently follow relevant workplace procedures, policies, instructions and regulations, including relevant manufacturer's guidelines relating to the operation and use of equipment
- complete work systematically with required time management and attention to detail without damage to goods, equipment or personnel
- 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
- identify and interpret information on sectors in the manufacturing industries
- articulate own goals and vision and identify skills gaps and ways they may be addressed
- identify and interpret information on the range of products and services produced by manufacturing industries
- identify and take advantage of learning opportunities in the workplace
- 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
- use workplace technology skills where appropriate or required.

Knowledge Evidence

Must provide evidence that demonstrates knowledge of:

- current events, activities, products and services of the manufacturing industry
- workplace policies, procedures and guidelines
- time management strategies and appropriate workplace etiquette

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- workplace equipment, tools and other technologies used in the manufacturing industry and where and how to obtain information and instructions on their safe use and basic care and servicing
- sources of information on the industry sector and skills development activities.

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:
  - 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

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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

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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

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		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:

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- 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:

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- 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

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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

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Assessment Requirements for MSMPCI102 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

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- 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

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MSMPCI103 Demonstrate care and apply safe practices at work

Modification History

Release 1. Supersedes and is equivalent to MSAPCI103A Demonstrate care and apply safe practices at work

Application

This unit of competency covers the knowledge and skills needed to understand, apply and satisfy safe work practices in an industry. It includes identifying and following work procedures for hazards and risks, monitoring and maintaining cleanliness and tidiness at work, and reporting hazards and risks in appropriate ways. It applies to work health and safety (WHS) requirements and internal workplace policies and procedures.

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.

The 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, the 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

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Unit Sector

Elements and Performance Criteria

Elements describe the essential outcomes		Performance criteria describe the performance needed to demonstrate achievement of the element	
1	Follow workplace OHS procedures	1.1	Identify, interpret and apply relevant WHS, workplace hazard control procedures and safe work practices
		1.2	Identify and adhere to workplace procedures for reporting hazards promptly and efficiently
		1.3	Undertake all work activities in a safe manner according to WHS guidelines, enterprise policies and procedures
		1.4	Assess the work area regularly and follow procedures to report, remove or minimise potential hazards
		1.5	Use personal protective equipment (PPE) correctly in accordance with established safety and workplace procedures
2	Maintain personal wellbeing in the workplace	2.1	Identify risks to personal wellbeing which may affect safe performance in the workplace and use strategies to prevent and manage them
		2.2	Identify, interpret and follow procedures for maintaining a tidy and clean personal work area
3	Identify and report on safety of self and others	3.1	Identify and correct or report situations which may endanger self or other workers
		3.2	Report incidents and injuries to self or others on the job to appropriate persons and deal with them in a timely manner
		3.3	Contribute to participative arrangements to foster safe working practices, as appropriate
4	Take action in	4.1	Recognise emergency situations and take action within

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emergency situations		scope of individual responsibility
	4.2	Follow emergency procedures in accordance with organisational procedures
	4.3	Seek assistance from colleagues and/or other authorities, where appropriate

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.

Hazard control procedures

Hazard control procedures include one or more of the following:

- emergency, fire and accident procedures
- hazard identification and removal or, if this is not possible, establish a hazard control
- use of PPE
- relevant manufacturer guidelines relating to the operation and use of equipment
- WHS regulations
- safe use of mechanical, pneumatic, hydraulic and/or electrical equipment
- safe use of chemicals and toxic substances

Workplace hazards

Workplace hazards include, but are not limited to, one or more of the following:

- untidy work conditions, including poor and unnecessary obstacles and equipment in work areas
- sharp instruments or equipment
- excessive noise
- hot substances and equipment

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- electricity and water
- electrical equipment
- being careless when using cutting equipment or dealing with heat or hot surfaces
- damaged equipment
- moving machinery
- materials handling
- gases and liquids under pressure
- working at heights
- confined spaces
- inappropriate lifting practices
- dangerous floor surfaces
- movements of equipment, goods and vehicles
- chemicals and other harmful substances, including fumes and dust
- toxic substances
- damaged packing material and containers
- inflammable materials and fire hazards
- unavailable waste management and disposal procedures
- extremes in weather conditions
- unsuitable lighting levels
- water hazards
- dangerous storage areas

Safe work practices

Safe work practices include, but are not limited to, one or more of the following:

- manual handling procedures
- correct posture
- safe lifting and bending
- using appropriate PPE

Risks to personal wellbeing

Risk to personal wellbeing include, but are not limited to, one or more of the following:

- smoking, alcohol and drug use
- lack of sleep
- poor diet
- lack of exercise
- stress
- not using appropriate methods when lifting or moving heavy objects

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- not wearing proper PPE

PPE

PPE includes, but is not limited to, one or more of the following:

- gloves
- masks
- uniform
- safety headwear and footwear
- safety glasses
- two-way radios
- high visibility clothing

Appropriate persons

Appropriate persons include one or more of the following:

- workplace personnel
- supervisors
- team leaders
- management
- WHS personnel
- other persons authorised or nominated by the organisation

Emergency situations

Emergency situations include, but are not limited to, one or more of the following:

- accidents
- overheating equipment
- injuries, such as cuts, scalds and burns
- health conditions, such as fainting, asthma attacks and allergic reactions
- spills and leakages of harmful gas and liquids
- structural failures and breakages
- robbery
- fire
- flooding
- power failures or shorts

Participative arrangements

Participative arrangements include one or more of the following:

- workplace meetings
- suggestion schemes
- regular communications with team leaders
- information sessions

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Unit Mapping Information

Release 1. Supersedes and is equivalent to MSAPCI103A Demonstrate care and apply safe practices at work

Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=d1287d36-dff4-4e9f-ad2c-9d6270054027

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Assessment Requirements for MSMPCI103 Demonstrate care and apply safe practices at work

Modification History

Release 1. Supersedes and is equivalent to MSAPCI103A Demonstrate care and apply safe practices at work

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:

- follow relevant workplace procedures, policies, instructions and regulations, including work health and safety (WHS) regulations and hazard prevention policies and procedures, environment protection, and manufacturer guidelines relating to the operation and use of equipment
- follow workplace procedures for hazard identification and risk control
- use relevant personal protective equipment (PPE)
- complete work systematically with required attention to detail without damage to goods, equipment or personnel
- use appropriate written and verbal communication in the workplace
- use basic interpersonal and communication skills, including listening and questioning, and receiving feedback
- promptly report workplace hazards and WHS incidents and take appropriate action
- solve or report problems identified when dealing with safety hazards and applying appropriate hazard control procedures
- recognise limitations, ask for help and seek clarification or information about work requirements and procedures.

Knowledge Evidence

Must provide evidence that demonstrates knowledge of:

- procedures related to WHS to be followed in the work area concerned
- workplace hazards and ways to minimise or remove them
- workplace equipment, materials, housekeeping equipment and the processes and precautions for their use
- PPE relevant to the job and job context
- appropriate hygiene and safety standards.

Assessment Conditions

- Assessment must occur in a simulated environment or a workplace.

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- 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.
- Assessors must:
  - as a minimum, satisfy the Standards for Registered Training Organisations 2015 assessor requirements
  - hold training and assessment competencies as determined by the National Skills Standards Council (NSSC) or its successors
  - 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

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MSMPCII295 Operate manufacturing equipment

Modification History

Release 1. Supersedes and is equivalent to MSAPCII295A Operate manufacturing equipment

Application

This unit of competency covers the skills and knowledge required to operate production equipment, and to the resolve routine problems in a simulated or trial manufacturing environment where there is a high degree of direct supervision. This competency is intended to be applied to any item of routine production equipment.

This unit of competency 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 can be performed by operators working either independently or as part of a work team.

This unit of competency 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.

When delivered/assessed as part of a qualification the 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

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Unit Sector

Elements and Performance Criteria

Elements describe the essential outcomes		Performance criteria describe the performance needed to demonstrate achievement of the element	
1	Check job requirements	1.1	Identify workplace requirements by following established procedures and practices, including work health and safety (WHS) requirements
		1.2	Identify product, materials and equipment requirements for job, including personal protective equipment (PPE)
2	Control hazards	2.1	Identify hazards in the production work area
		2.2	Assess the risks arising from those hazards
		2.3	Implement measures to control or avoid those risks in line with procedures and duty of care to fellow workers
3	Prepare equipment for operation as required	3.1	Perform pre-start checks
		3.2	Report suspected unusual or non-standard product, materials and equipment to an appropriate person
		3.3	Notify other team members, if required, on the intended equipment function and start-up
		3.4	Check/supply materials to equipment as required
		3.5	Start up the item of equipment as required
		3.6	Bring equipment to specified conditions and build the operating rate steadily, checking expected performance at various stages in accordance with procedures
4	Operate equipment	4.1	Monitor equipment operating conditions
		4.2	Monitor product characteristics

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		4.3	Recognise conditions and characteristics which indicate a problem or a potential problem
		4.4	Take appropriate action in response to problem or potential problem
		4.5	Maintain supply of materials and removal of products as required
		4.6	Complete required records
		4.7	Keep equipment and work area in a clean, organised and safe condition
5	Prepare equipment for shutdown	5.1	Perform emergency pause, stop or shutdown as required
		5.2	Ensure equipment is free of product or purged as required
		5.3	Shut down equipment in accordance with procedures
		5.4	Make sure equipment and area is left in a safe condition and ready for restart, maintenance or medium /long-term shutdown

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 Procedures may be written, verbal computer-based, or in some other form and include one or more of the following:

- work instructions

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- standard operating procedures (SOPs)
- formulas/recipes
- batch sheets
- temporary instructions and similar instructions provided for the smooth running of equipment and processes

For the purposes of this Training Package, ' procedures' also includes good operating practice as may be defined by industry codes of practice (eg Good Manufacturing Practice (GMP), Responsible Care) and government regulations.

Equipment

Equipment for the purposes of this unit covers routine or common manufacturing equipment suitable for students operating in a simulated or trial manufacturing environment where there is a high degree of direct supervision. examples includes, but is not limited to, one or more of the following:

- guillotines
- bending and folding machines
- non-computer numerically controlled (CNC) lathes, especially bench and training lathes
- soldering equipment
- pedestal drills
- bench grinders

Workplace hazards

Workplace hazards include, but are not limited to, one or more of the following:

- hazardous materials
- gases and liquids under pressure
- moving machinery
- cutting edges
- electrical equipment
- materials handling
- environments subject to heat, noise, dusts or vapours

Pre-start checks

Pre-start checks include one or more of the following:

- visual checks
- completing checklists
- checking that safety guards, gates and so on, are in position and are operational

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- other checks required by SOPs and manufacturer instructions

Equipment operating conditions

Equipment operating conditions will be monitored using a range of techniques including:

- monitoring of measured or indicated data as shown by gauges and charts (e.g. speed, hours on line, pressure, temperature, flow and vibration)
- the senses of smell, sight, sound and feel, as appropriate

Product characteristics

Product characteristics include one or more of the following:

- product quality
- production rate
- defect rate

Problem/potential problems

Problem/potential problems include, but are not limited to, one or more of the following:

- changes to operating conditions
- adverse changes to product characteristics
- adverse changes to waste

Appropriate actions

Appropriate actions include one or more of the following:

- making adjustments in accordance with procedures
- stopping the equipment in accordance with procedures
- reporting to appropriate person

Records

Records include one or more of the following:

- log sheets/books
- job/work sheets
- electronic/paper records
- verbal/voicemail/email reports

Unit Mapping Information

Release 1. Supersedes and is equivalent to MSAPCII295A Operate manufacturing equipment

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Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=d1287d36-dff4-4e9f-ad2c-9d6270054027

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Assessment Requirements for MSMPCII295 Operate manufacturing equipment

Modification History

Release 1. Supersedes and is equivalent to MSAPCII295A Operate manufacturing equipment

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:

- carry out the day-to-day operation of a routine piece of production equipment, meeting the demands of productivity and quality while resolving routine problems
- follow work instructions, operating procedures and inspection practices to:
  - minimise the risk of injury to self or others
  - prevent damage to goods, equipment or products
  - achieve required production output and product quality
  - modify activities to cater for variations in workplace contexts and environment
- use hand tools and power equipment correctly and safely
- perform normal operator maintenance of work area to enable work to be conducted safely and efficiently
- check specifications and work requirements
- recognise early warning signs of equipment/processes needing attention, including changes to operating conditions, product quality and amount of waste
- make pre-start visual checks, including completing checklists and checking that safety guards and gates are in position and are operational
- use start-up and shutdown processes
- monitor equipment operation as shown by gauges and charts (e.g. speed, hours on line, pressure, temperature, flow and vibration)
- monitor equipment using the senses of smell, sight, sound and feel, as appropriate
- monitor product quality, production rate and defect rate
- report process variations to ensure process conditions are maintained within limits
- respond signals and alarms immediately
- check product for quality and conformity to specifications
- address non-conforming products/materials in accordance with procedures
- identify and rectify/report routine process problems
- complete proforma production logs and reports
- communicate and work effectively and safely with others
- comply with work health and safety (WHS) requirements and safety instructions
- apply safe handling requirements for equipment, products and materials, including the use of personal protective equipment (PPE)
- collect, organise and understand information related to equipment operation

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- use mathematical ideas and techniques for measuring product specifications and estimating materials requirements
- follow instructions and specifications and ask for help where needed
- prepare and plan the work
- modify activities to cater for variations in workplace contexts and environment.

Knowledge Evidence

Must provide evidence that demonstrates knowledge of:

- major components and functions of the equipment
- principles of equipment operation
- equipment operating parameters
- equipment and product variables and their interactions
- critical material properties, settings and readings
- impact of materials and properties
- construction and limitations of the equipment
- out-of-specification situations
- distinguishing between causes of faults, including:
  - raw materials
  - instrument failure/malfunction
  - electrical failure/malfunction
  - mechanical failure/malfunction
  - variations in product parameters (temperature, flows, pressure and levels).

Assessment Conditions

- Assessment must occur in a simulated environment or a workplace on an operating item of production equipment.
- Workplace for this unit covers a manufacturing environment specifically established for learning introductory manufacturing skills. It may be:
  - a school classroom or workshop equipped to teach manufacturing principles and practices
  - RTO premises equipped to teach manufacturing principles and practices with access to an operating item of production equipment over an extended time
  - an enterprise environment where above average supervision exists and training is occurring. The normal production imperatives have been modified to take into account the training being delivered.
- This unit must always be assessed 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.
- Materials and equipment must include:

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  - workplace procedures such as work instructions, standard operating procedures (SOPs), batch sheets. They may be written, verbal, computer based or in some other form.
  - routine or common manufacturing equipment suitable for students operating in a simulated or trial manufacturing environment where there is a high degree of direct supervision.
- Equipment / materials include but are not limited to one or more of the following:
  - guillotines
  - bending and folding machines
  - non CNC lathes, especially bench and training lathes
  - soldering equipment
  - pedestal drills
  - bench grinders
  - records including log sheets/books, job/work sheets, electronic/paper records, verbal/voicemail/email reports
- 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

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MSMPCII296 Make a small furniture item from timber

Modification History

Release 1. Supersedes and is equivalent to MSAPCII296A Make a small furniture item from timber

Application

This unit of competency covers the skills and knowledge required to make a small timber furniture item in accordance with the requirements of an established design. The unity of competency applies in a simulated or trial manufacturing environment where there is a high degree of direct supervision. The work may or may not involve electrical machinery.

This unit of competency 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 of competency 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.

The unit of competency should be applied to a specific 'project' or task which has a defined beginning, middle and end, occurs over an extended period of time, and is relevant to the furniture manufacturing industry.

When delivered/assessed as part of a qualification the 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

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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 job requirements	1.1	Identify specifications for a small furniture item from work instructions
		1.2	Interpret the design to determine tools, equipment and materials, space and work health and safety (WHS) requirements
		1.3	Identify the cutting, joining and finishing requirements
2	Prepare for work	2.1	Select a suitable work area for the task
		2.2	Prepare the work area to meet WHS and ergonomic requirements
		2.3	Select appropriate tools, equipment and materials, including personal protective equipment (PPE), in accordance with specifications
		2.4	Clean, check and adjust equipment and machinery in accordance with workplace procedures
		2.5	Identify potential hazards associated with the use of tools, equipment and materials, and take appropriate safety precautions and/or report to supervisor
		2.6	Keep records in accordance with workplace requirements
3	Produce work	3.1	Cut timber according to specifications and WHS requirements
		3.2	Prepare edges and surfaces according to specifications and WHS requirements
		3.3	Join timber pieces according to item specifications and WHS requirements

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		3.4	Check work against specifications at the identified checkpoints
		3.5	Rectify any non-conformity with required specifications and quality standards
		3.6	Finish work according to specifications and quality standards
4	Complete work	4.1	Check completed work against specifications and quality standards
		4.2	Return unused materials to storage, and dispose of waste and scrap following workplace procedures
		4.3	Clean the work area and return the tools and equipment to storage
		4.4	Complete and file documentation following workplace procedures and communicate with the supervisor

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.

Small furniture item from timber	A small furniture item from timber includes one or more of the following: • small decorative box, with or without a lid • wooden photo album • simple stool/chair • shelving

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- CD rack
- chopping board
- simple table

Work instructions

Work instructions include one or more of the following:

- job sheets
- patterns
- plans
- drawings and sketches
- verbal or illustrated directions from supervisor
- number and type of objects to be produced
- quality requirements
- WHS requirements
- environmental requirements

WHS requirements

WHS requirements include one or more of the following:

- equipment safety instructions
- hazardous and dangerous goods codes
- local safe operating procedures
- specific workplace rules regarding PPE

Suitable work area

A suitable work area includes one or more of the following:

- workbench
- desk or table
- workshop
- shed
- floor suitable for layout and assembly

Appropriate tools, equipment and materials

Appropriate tools, equipment and materials include, but are not limited to one or more of the following:

- manual saw
- jigsaw
- hacksaw
- clamp
- hammer
- mallet
- screw driver

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- punch
- pliers and pincers
- file
- miter cutter
- 90 degree angle
- staple gun
- paintbrush
- rags
- measuring tapes/ rulers
- spirit level
- bevel
- chisel
- electric saw
- electric sander
- electric screw driver
- power drills
- panel laners
- horizontal borers
- vertical drill presses
- pedestal grinders
- pencils and marking devices
- blades
- lathes
- timber
- manufactured boards
- adhesives
- screws
- nails
- bolts
- glue
- hinges and metal fasteners
- steel
- plastics
- sandpapers
- primers
- paints and stains

Potential hazards

Potential hazards include one or more of the following:

- broken or faulty equipment
- unnoticed sharp objects
- poor lighting

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- inadequate ventilation
- inadequate attention to the activities of others
- electrical shortages and power overload
- disorganised or cluttered workspace (poor housekeeping)
- poor attention when dealing with tools and equipment
- environmental chemicals, heat, dust, noise, gas and oil

Workplace records

Workplace records include one or more of the following:

- plant and maintenance records
- job cards
- check sheets
- reporting requirements
- documenting equipment and/or material defects
- workplace procedures relating to the use of tools and equipment
- equipment booking forms and records
- attendance records

Specifications

Specifications include one or more of the following:

- measurements and dimensions
- shape
- joining methods
- surface finish, for example paint and varnish
- quality standards
- materials to be used

Preparing edges and surfaces

Preparing edges and surfaces include one or more of the following:

- filing
- sanding
- bevelling

Joining timber

Joining timber includes one or more of the following:

- nails
- screws
- glue
- staples

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Rectifying non-conformities	Rectifying non-conformities includes one or more of the following: • disassembly of the furniture item • reshaping, resizing or re-cutting component materials • reassembly
Finishing work	Finishing work includes one or more of the following: • sanding • priming • painting • sealing • staining • decorating
Documentation	Documentation includes one or more of the following: • completing necessary paperwork • communicating with supervisor that you have completed the task • photographing the finished piece • filing necessary paperwork

Unit Mapping Information

Release 1. Supersedes and is equivalent to MSAPCII296A Make a small furniture item from timber

Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=d1287d36-dff4-4e9f-ad2c-9d6270054027

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Assessment Requirements for MSMPCII296 Make a small furniture item from timber

Modification History

Release 1. Supersedes and is equivalent to MSAPCII296A Make a small furniture item from timber

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:

- construct, assemble and finish at least one (1) basic furniture item from timber
- follow work instructions, operating procedures and inspection practices to:
  - minimise the risk of injury to self or others
  - prevent damage to goods, equipment or products
  - achieve required production output and product quality
  - modify activities to cater for variations in workplace contexts and environment
- use hand and power tools and equipment correctly and safely
- perform normal operator maintenance of work area to enable work to be conducted safely and efficiently
- communicate and work effectively and safely with others
- comply with work health and safety (WHS) requirements and safety instructions
- apply safe handling requirements for equipment, products and materials, including the use of personal protective equipment (PPE)
- collect, organise and understand information related to basic plans
- use mathematical ideas and techniques for measuring and calculating areas and estimating materials requirements
- follow instructions and specifications and ask for help where needed.

Knowledge Evidence

Must provide evidence that demonstrates knowledge of:

- workplace procedures and work instructions
- quality requirements
- terms used in furniture construction
- types and uses of tools, equipment and materials
- types of plans, drawings and specifications
- safety precautions for hazardous materials and equipment
- the organisational or workplace structure
- evaluation and review procedures

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- creative thinking techniques
- enterprise/site safety and emergency procedures
- relevant standards and procedures.

Assessment Conditions

Assessment should occur on the job or in a workplace simulated facility with relevant equipment, materials, work instructions and deadlines.

This unit must always be assessed 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.

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.

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

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MSMPCII297 Make an object from cloth using an existing pattern

Modification History

Release 1. Supersedes and is equivalent to MSAPCII297A Make an object from cloth using an existing pattern

Application

This unit of competency covers the skills and knowledge required to make an object from cloth (such as basic decorative items or clothing) following the requirements of an identified pattern. It may or may not require machinery and does not require complex sewing or finishing or the development of a pattern.

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.

The unit should be applied to a specific 'project' or task which has a defined beginning, middle and end, occurs over an extended period of time, and is relevant to the manufacturing industry.

When delivered/assessed as part of a qualification the 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

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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	Identify job requirements	1.1	Identify job requirements for making the object from cloth from work instructions
		1.2	Apply instructions for designing and sequencing work
		1.3	Interpret and map out particular measurements or adjustments
		1.4	Consider, plan for and observe work health and safety (WHS) requirements
2	Prepare for work	2.1	Select a suitable work area for the task
		2.2	Select appropriate tools, equipment and materials, including personal protective equipment (PPE), in accordance with specifications
		2.3	Identify potential hazards associated with the use of tools, equipment and materials, and take appropriate safety precautions and/or report to supervisor
		2.4	Lay out required tools and materials in sequence according to job requirements and work instructions
		2.5	Check and adjust equipment in accordance with workplace procedures
3	Create work	3.1	Measure, cut and lay out fabric according to specifications
		3.2	Secure or sew fabric according to quality requirements

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		3.3	Check work against patterns and worksheets at the identified checkpoints
		3.4	Rectify non-conformity with the required pattern or quality standard
4	Complete work	4.1	Check completed work against the required quality standards
		4.2	Complete documentation following workplace reporting procedures
		4.3	Clean work area and return tools and equipment to storage
		4.4	Return unused materials to storage and deal with waste and scrap following workplace 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.

An object from cloth

An object from cloth includes one or more of the following:

- basic cushions
- soft tableware, such as placemats or serviettes
- basic clothing, such as a scarf, simple cloth hat not requiring blocking or a circle skirt
- a basic carry bag
- handkerchief
- tea towel
- wall hanging

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- pencil case
- BBQ cover
- external awning

Work instructions

Work instructions include one or more of the following:

- job sheets including number and type of objects to be produced
- patterns for making an object from cloth
- plans
- drawings and sketches
- operating instructions for equipment including safety procedures
- designer instructions
- quality requirements
- verbal directions from a supervisor or instructor

WHS requirements

WHS requirements include one or more of the following:

- legislation
- regulations
- material handling instructions, including hazardous and dangerous goods codes
- local safe operating procedures
- specific workplace rules and regulations regarding personal protective equipment (PPE)

Suitable work area

A suitable work area includes one or more of the following:

- a bench top or desk
- a sewing or layout table
- a sewing table with a sewing machine

Tools, **equipment and materials**

Tools, equipment and materials include one or more of the following:

- measuring equipment, such as tapes and rulers
- calculating equipment, such as calculators and computers
- general cutting and sewing tools, including scissors, drills, sewing machines, hemming machines and glue guns
- PPE
- plain and patterned fabric

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- velvet
- threads
- wadding
- foam
- tape
- fasteners, including buttons and hooks

Potential hazards

Potential hazards include one or more of the following:

- broken or faulty equipment
- damaged needles
- a lack of lighting
- untidy working conditions
- wet or slippery floors
- improperly secured sewing machines
- damaged or frayed electrical cables and connections

Reporting procedures

Reporting procedures include:

- completing necessary paperwork
- communicating with a supervisor or key person that you completed the task
- reporting, accidents, injuries and faulty equipment or materials
- filing necessary paperwork

Unit Mapping Information

Release 1. Supersedes and is equivalent to MSAPCII297A Make an object from cloth using an existing pattern

Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=d1287d36-dff4-4e9f-ad2c-9d6270054027

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Assessment Requirements for MSMPCII297 Make an object from cloth using an existing pattern

Modification History

Release 1. Supersedes and is equivalent to MSAPCII297A Make an object from cloth using an existing pattern

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:

- construct, assemble and finish at least one (1) object made from cloth
- follow work instructions, operating procedures and inspection practices to:
  - minimise the risk of injury to self or others
  - prevent damage to goods, equipment or products
  - achieve required production output and product quality
  - modify activities to cater for variations in workplace contexts and environment
- identify appropriate materials for use in making cloth items, and any special sewing or handling requirements for those materials
- interpret work order and locate and apply relevant information
- use patterns, and select and use tools and equipment appropriate to the task
- prevent damage to goods, equipment or products
- maintain required production output and product quality
- use hand tools and power equipment correctly and safely
- perform normal operator maintenance of work area to enable work to be conducted safely and efficiently
- report process or materials faults, damaged products or equipment
- communicate and work effectively and safely with others
- comply with work health and safety (WHS) requirements and safety instructions
- apply safe handling requirements for equipment, products and materials, including the use of personal protective equipment (PPE)
- collect, organise and understand information related to basic plans
- use mathematical ideas and techniques for measuring and calculating areas and estimating materials requirements
- follow instructions and specifications and ask for help where needed.

Knowledge Evidence

Must provide evidence that demonstrates knowledge of:

- workplace procedures and work instructions
- organisational structure

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- evaluation and review procedures;
- creative thinking techniques.

Assessment Conditions

- Assessment should occur on the job or in a workplace simulated facility with relevant equipment, materials, work instructions and deadlines.
- 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.
- Conditions for assessment must include access to all tools, equipment, materials and documentation required, including work instructions, specifications, hand and/or power tools, workplace records and a suitable work area.
- 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

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MSMPCII298 Make an object from metal

Modification History

Release 1. Supersedes and is equivalent to MSAPCII298A Make an object from metal

Application

This unit of competency covers the skills and knowledge required to make an object from metal in accordance with the requirements of an established design in a simulated or trial manufacturing environment where there is a high degree of direct supervision.

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.

The unit must be applied to a specific 'project' or task which has a defined beginning, middle and end, occurs over an extended period of time, and is relevant to the manufacturing industry.

When delivered/assessed as part of a qualification the 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

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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 job requirements	1.1	Identify specifications for metal item from work instructions
		1.2	Interpret design to determine the process, tools, equipment and materials required
		1.3	Consider and apply work health and safety (WHS) requirements for the job
2	Prepare for work	2.1	Select a suitable work area for the task
		2.2	Prepare the work area according to WHS and ergonomic requirements
		2.3	Select appropriate tools, equipment and materials, including personal protective equipment (PPE), in accordance with specifications
		2.4	Clean, check and prepare equipment and machinery for operation in accordance with WHS requirements and workplace procedures
		2.5	Identify potential hazards associated with the use of tools, equipment and materials, and take appropriate safety precautions and/or report to supervisor
		2.6	Keep records in accordance with workplace requirements
3	Produce work	3.1	Transfer dimensions from job specifications and/or drawings or sketches and mark out material to conform to specifications and templates using appropriate machinery or tools

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		3.2	Prepare edges and surfaces according to specifications
		3.3	Join components according to project requirements
		3.4	Check work for conformance with specifications
		3.5	Rectify non-conformity with specifications or quality standards
		3.6	Finish work according to specifications and quality standards
4	Complete work	4.1	Check completed work against required quality standards
		4.2	Return unused materials to storage and deal with waste and scrap following workplace procedures
		4.3	Clean work area and return tools and equipment to storage
		4.4	Complete documentation and records and maintain them following workplace 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.

Metal

Metal includes one or more of the following:

- mild steel
- galvanised steel
- stainless steel

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- aluminium
- brass

Metal object

A metal object includes one or more of the following:

- a small decorative box, with or without a lid
- desk pencil holder
- metallic photo album
- cabinet
- shelving
- CD rack
- metallic picture frame

Work instructions

Work instructions include one or more of the following:

- job sheets
- patterns
- plans
- drawings and sketches
- verbal or illustrated directions from supervisor
- number and type of objects to be produced
- quality requirements
- WHS requirements
- environmental requirements

WHS requirements

WHS requirements include one or more of the following:

- legislative requirements
- hazardous and dangerous goods codes
- safe operating procedures
- specific workplace rules regarding PPE, such as disposable overalls, dust mask, eye and ear protection, and gloves

Suitable work area

A suitable work area includes one or more of the following:

- workbench
- desk or table
- workshop
- shed
- durable space

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Appropriate tools, equipment and materials

Appropriate tools, equipment and materials include one or more of the following:

- measuring tapes or rulers
- hammers
- mallets
- squares
- bevels
- chisels
- files
- planes
- hand saws
- cordless drills/screwdrivers
- fixing and joining devices
- jigs
- clamping devices
- pincers
- power saws
- power drills
- band saws
- vertical drill presses
- PPE
- metal
- adhesives
- screws
- nuts
- bolts
- hinges and metal fasteners
- pencils and markers
- paints

Potential hazards

Potential hazards include one or more of the following:

- broken or faulty equipment
- unnoticed sharp objects
- poor lighting
- inadequate ventilation
- inadequate attention to the activities of others
- electrical shortages and power overload
- disorganised or cluttered workspace (poor housekeeping)

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- poor attention when dealing with tools and equipment
- environmental chemicals, heat, dust, noise, gas and oil

Workplace records

Workplace records include one or more of the following:

- plant and maintenance records
- job cards
- check sheets
- reporting requirements
- documenting equipment and/or material defects
- workplace procedures relating to the use of tools and equipment

Specifications

Specifications include one or more of the following:

- measurements and dimensions
- joining methods
- quality standards
- materials to be used

Preparing edges and surfaces

Preparing edges and surfaces includes one or more of the following:

- filing
- sanding
- cleaning
- grinding
- polishing

Joining metal pieces

Joining metal pieces includes one or more of the following

- screws, rivets, nuts and bolts
- hinging
- soldering

Rectifying non-conformities

Rectifying non-conformities includes one or more of the following:

- deconstructing the assembled pieces
- reshaping, resizing or re-cutting elements
- reassembling elements

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Finishing work	Finishing work includes one or more of the following: • filing • polishing • grinding • painting and decorating

Unit Mapping Information

Release 1. Supersedes and is equivalent to MSAPCII298A Make an object from metal

Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=d1287d36-dff4-4e9f-ad2c-9d6270054027

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Assessment Requirements for MSMPCII298 Make an object from metal

Modification History

Release 1. Supersedes and is equivalent to MSAPCII298A Make an object from metal

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:

- construct, assemble and finish at least one (1) basic object from metal
- follow work instructions, operating procedures and inspection practices to:
  - minimise the risk of injury to self or others
  - prevent damage to goods, equipment or products
  - achieve required production output and product quality
  - modify activities to cater for variations in workplace contexts and environment
- use routine workplace tools, equipment, materials and measuring devices correctly and safely
- apply pre-checking and quality techniques to anticipate construction problems, avoid reworking and avoid wastage
- perform normal operator maintenance of work area to enable work to be conducted safely and efficiently
- communicate and work effectively and safely with others
- comply with work health and safety (WHS) requirements and safety instructions
- apply safe handling requirements for equipment, products and materials, including the use of personal protective equipment (PPE)
- collect, organise and understand information related to basic plans
- use mathematical ideas and techniques for measuring and calculating areas and estimating materials requirements
- follow instructions and specifications and ask for help where needed.

Knowledge Evidence

Must provide evidence that demonstrates knowledge of:

- the concept of work flow and its relation to manufacture of objects
- WHS standards and requirements
- relevant statutory requirements and codes of practice
- hand and portable power tools and their application
- mechanical cutting techniques
- fabrication and shaping techniques
- types of paints, sealants and glues

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- types of jigs and templates
- workshop plant and equipment
- manufacture and assembly techniques
- common materials used in the manufacture of metal objects.

Assessment Conditions

- Assessment should occur on the job or in a workplace simulated facility with relevant equipment, materials, work instructions and deadlines.
- 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.
- Workplace for this unit means a manufacturing environment specifically established for learning introductory manufacturing skills. It may be:
  - a school classroom or workshop equipped to teach manufacturing principles and practices
  - RTO premises equipped to teach manufacturing principles and practices
  - an enterprise environment where above average supervision exists and training is occurring. The normal production imperatives have been modified to take into account the training being delivered.
- Conditions for assessment must include access to all tools, equipment, materials and documentation required, including work instructions, specifications, hand and/or power tools, metal working machinery, workplace records and a suitable work area.
- 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

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MSMPCII299 Make an object from plastic

Modification History

Release 1. Supersedes and is equivalent to MSAPCII299A Make an object from plastic

Application

This unit of competency covers the skills and knowledge required to make a component from plastic in accordance with the requirements of an established design in a simulated or trial manufacturing environment where there is a high degree of supervision. The work may or may not involve plastics processing machinery.

This unit of competency 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 of competency 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.

The unit should be applied to a specific 'project' or task which has a defined beginning, middle and end, occurs over an extended period of time, and is relevant to the manufacturing industry.

When delivered/assessed as part of a qualification the 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

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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 job requirements	1.1	Identify specifications for plastic product from work instructions
		1.2	Interpret product specification to determine the process, tools, equipment and materials required
		1.3	Identify assembly and finishing requirements
		1.4	Identify work health and safety (WHS) and environmental hazards, and implement hazard control measures
		1.5	Identify materials, housekeeping, waste management requirements and personal protective equipment (PPE)
2	Prepare for work	2.1	Check equipment requirements and adjust equipment to appropriate process settings
		2.2	Check and adjust material requirements
		2.3	Keep records according to workplace requirements
		2.4	Complete pre-start checks of equipment
3	Operate equipment to produce component	3.1	Start up equipment following workplace and hazard control procedures
		3.2	Monitor the process to ensure quality
		3.3	Monitor the product quality
		3.4	Identify and rectify quality and other problems
4	Complete work	4.1	Assemble the product according to specifications

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4.2 Check completed work against specifications and customer requirements

4.3 Return unused materials to storage and deal with waste and scrap following workplace procedures

4.4 Clean the work area and return tools and equipment to storage

4.5 Complete documentation following workplace 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.

A plastic product

A plastic product includes one or more of the following:

- small container
- picture frame
- toys
- tool box
- automotive plastic products
- household items
- electrical goods
- playground equipment
- small boat
- any other product made from polymers

Plastic processing techniques

Plastic processing techniques include one or more of the following:

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- injection moulding
- blow moulding
- thermo forming
- composite
- extrusion
- fabrication
- rotational moulding
- other plastic processing methods

Work instructions

Work instructions include one or more of the following:

- job sheets
- patterns
- plans
- drawings and sketches
- verbal or illustrated directions from supervisor
- number and type of objects to be produced
- quality requirements
- WHS requirements

WHS requirements

WHS requirements include one or more of the following:

- equipment safety instructions
- hazardous and dangerous goods codes
- local safe operating procedures
- specific workplace rules regarding personal protective wear and equipment
- environmental controls
- risk assessment
- emergency procedures

Suitable work area

A suitable work area includes one or more of the following:

- on-site host company maintenance or tooling workshop
- simulated workshop in Registered Training Organisation (RTO)
- on-site production facilities

Appropriate tools, equipment and materials

Appropriate tools, equipment and materials include one or more of the following:

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- manual saw
- jigsaw
- hacksaw
- clamp
- hammer
- mallet
- screw driver
- punch
- pliers and pincers
- file
- miter cutter
- 90 degree angle
- staple gun
- paintbrush
- rags
- measuring tapes/ rulers
- spirit level
- bevel
- chisel
- rollers/scissors
- electric saw
- electric sander
- electric screw driver
- power drills
- vertical drill presses
- pedestal grinders
- plastics processing equipment
- plastics welders such as hot air guns, ultrasonic
- injection moulders/blow moulders/rotational moulding equipment/thermoforming equipment
- plastics raw material
- extruded plastic sheeting (e.g. Perspex, acrylic and polycarbonate)
- adhesives
- screws
- bolts
- glue
- hinges and metal fasteners
- sandpapers
- primers
- paints

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Potential hazards

Potential hazards include one or more of the following:

- broken or faulty equipment
- unnoticed sharp objects
- poor lighting
- inadequate ventilation
- inadequate attention to the activities of others
- electrical shortages and power overload
- disorganised or cluttered workspace (poor housekeeping)
- poor attention when dealing with tools and equipment
- environmental chemicals, heat, dust, noise, gas and oil
- hot equipment and materials
- cuts
- back strain

Workplace records

Workplace records include one or more of the following:

- plant and maintenance records
- set-up, date, batch and materials
- check sheets
- reporting requirements
- documenting equipment and/or material defects
- workplace procedures relating to the use of tools and equipment
- equipment booking forms and records
- attendance records
- quality reports
- production reports
- log sheets

Specifications

Specifications include one or more of the following:

- measurements and dimensions
- shape
- joining methods
- quality standard
- materials to be used
- appearance
- colour/finish

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Joining plastic	Joining plastic includes one or more of the following: • glue • ultrasonic/hot air welding • clips • metal fasteners (e.g. screws, bolts andrivets)
Rectifying non-conformities	Rectifying non-conformities includes one or more of the following • disassembly of the item • reshaping, resizing or re-cutting component materials • reassembly • refinishing • adjusting process conditions
Finishing work	Finishing work includes one or more of the following: • sanding • priming • painting • decorating • assembly • polishing • trimming

Unit Mapping Information

Release 1. Supersedes and is equivalent to MSAPCII299A Make an object from plastic

Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=d1287d36-dff4-4e9f-ad2c-9d6270054027

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Assessment Requirements for MSMPCII299 Make an object from plastic

Modification History

Release 1. Supersedes and is equivalent to MSAPCII299A Make an object from plastic

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:

- construct, assemble and finish at least one (1) basic plastic object using one (1) plastic processing technique
- follow work instructions, operating procedures and inspection practices to:
  - minimise the risk of injury to self or others
  - prevent damage to goods, equipment or products
  - achieve required production output and product quality
  - modify activities to cater for variations in workplace contexts and environment
- use hand and power tools correctly and safely
- perform normal operator maintenance of work area to enable work to be conducted safely and efficiently
- communicate and work effectively and safely with others
- comply with work health and safety (WHS) requirements and safety instructions
- apply safe handling requirements for equipment, products and materials, including the use of personal protective equipment (PPE)
- collect, organise and understand information related to basic plans
- use mathematical ideas and techniques for measuring and calculating areas and estimating materials requirements
- follow instructions and specifications and ask for help where needed.

Knowledge Evidence

Must provide evidence that demonstrates knowledge of:

- workplace procedures and work instructions
- quality requirements
- plastics industry terminology
- tool, equipment and material types and uses
- plans, drawings and specifications
- safety precautions with hazardous materials and equipment
- organisational or workplace structure
- evaluation and review procedures

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- creative thinking techniques.

Assessment Conditions

- Assessment should occur on the job or in a workplace simulated facility with relevant equipment, materials, work instructions and deadlines.
- This unit must always be assessed 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.
- Conditions for assessment must include access to all tools, equipment, materials and documentation required, including work instructions, specifications, hand and/or power tools, machinery, workplace records and a suitable work area.
- 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

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MSMPER200 Work in accordance with an issued permit

Modification History

Release 1. Supersedes and is equivalent to MSAPMPER200C Work in accordance with an issued permit

Application

This unit of competency covers the skills and knowledge required to work in accordance with an issued permit. It aims to ensure that people working under a permit to work understand the system, know the limitations of the permit under which they are working and comply with all the requirements of the permit. The people to whom this unit applies may be called 'permit recipients' or 'permit holders' by some organisations. Some organisations call 'permits' 'clearances'.

This unit of competency applies to persons who are required to conduct work activities under the authority of an issued permit to work and within the context and requirements of that permit. This typically applies to all work done by maintenance staff and contractors and also to any other non-process work performed on the plant.

This unit of competency applies to an individual working alone or as part of a team/work group and working in liaison with other team members, as appropriate.

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

Pre-requisite Unit

Nil

Competency Field

Work Control Systems

Unit Sector

Elements and Performance Criteria

Elements describe the essential outcomes	Performance criteria describe the performance needed to demonstrate achievement of the element

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1	**Apply for permit**	1.1	Confirm the scope and location of the work to be done
		1.2	Identify the need for a work permit for the work to be carried out
		1.3	Identify the type of work permit required
		1.4	Collate information required for the issue of the permit
		1.5	Apply for the permit following the organisation's requirements
2	**Identify the scope of the permit**	2.1	Check that work to be done complies with the permit type
		2.2	Check that the scope and location of work comply with the permit issued
		2.3	Identify hazards and check that the hazard controls specified on the permit are consistent with the hazard analysis
		2.4	Check that preparations specified on the permit have been completed
		2.5	Sign onto/receive the permit
3	**Prepare for permitted work**	3.1	Maintain safe working conditions and environment by using available isolation procedures and safety equipment
		3.2	Monitor plant conditions and hazards to ensure work under the permit remains safe
		3.3	Ensure that appropriate personal protective equipment (PPE) is selected and worn, and emergency equipment is available, as required by the permit and relevant procedures
		3.4	Inspect work area to ensure safety and compliance with permit requirements and procedures

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4	**Work in accordance with an issued permit**	4.1	Use required hazard reduction/control measures
		4.2	Comply with requirements of the permit, including safety observer if required
		4.3	Display issued permit on work site as required
		4.4	Ensure compliance with scope, location and timeframe specified in the permit.
		4.5	Seek variation to permit/new permit if job or work environment vary from that specified in the permit
		4.6	Suspend job and make worksite safe before leaving job
		4.7	Formally seek and receive authorised extensions to the permit when required
		4.8	Give end-of-day status report to permit issuer
5	**Complete permit to work**	5.1	Obtain new permit or have existing permit revalidated before work is recommenced
		5.2	Check the work conducted against the issued permit to ensure that all the nominated work requirements have been satisfied
		5.3	Monitor general housekeeping to ensure that the site has been left in a clean and safe condition
		5.4	Ensure personal lock outs/tag outs/isolations are removed in accordance with procedures
		5.5	Communicate status of the work conducted and the results of the permit to relevant personnel
		5.6	Complete documentation as required and have permit signed off when job is completed

Foundation Skills

This section describes those language, literacy, numeracy and employment skills that are essential to performance.

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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:

- work instructions
- standard operating procedures (SOPs)
- safe work method statements (SWMS)
- temporary instructions
- any similar instructions provided

Work permits

Work permits include one or more of the following:

- cold work/general permit to work
- excavation
- hot work
- vehicle entry
- minor repairs
- working at heights
- confined space entry
- other special permits where there is an appropriate sign-off as required

Information required for

Information required for the issue of the permit includes one or more of

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permit

the following:

- work description
- tools to be used
- process/methods of work/SOPs

Where hazardous materials are being used relevant material safety data sheets (MSDS) will also be required.

Hazards

Hazards include one or more of the following:

- slips and trips
- emergency equipment is unavailable
- smoke, darkness and heat
- heat, smoke, dust or other atmospheric hazards
- electricity
- gas
- gases and liquids under pressure
- structural hazards
- structural collapse
- industrial (machinery, equipment and product)
- equipment or product mass
- noise, rotational equipment or vibration
- limited head spaces or overhangs
- work where a fall by a person from one level to another is reasonably likely to cause injury
- working in restricted or confined spaces, or in environments subjected to heat, noise, dusts or vapours
- flammability and explosivity
- hazardous products and materials
- unauthorised personnel
- sharp edges, protrusions or obstructions, swarf and scrap
- spills or leaks
- extreme weather
- other hazards that might arise
- unsafe conditions developing through failure to conform with the provisions of a work permit
- hazards created by the nature or location of the work
- hazards created by the proximity of the work to other work or normal operations

Display issued

The permit holder must keep the issued permit with them on site. It must

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permit	be displayed or ready to be shown as required by the site/job requirements, including one or more of the following: • displayed in a mounting provided by the site • accessible in a folder which is on the worksite • carried in overall pockets in a manner which allows it to be readily shown on request

Unit Mapping Information

Release 1. Supersedes and is equivalent to MSAPMPER200C Work in accordance with an issued permit

Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=d1287d36-dff4-4e9f-ad2c-9d6270054027

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Assessment Requirements for MSMPER200 Work in accordance with an issued permit

Modification History

Release 1. Supersedes and is equivalent to MSAPMPER200C Work in accordance with an issued permit

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:

- identify type and scope of permit relevant to the job
- interpret and implement permit conditions
- identify changes to conditions which may lead to the permit being revoked before the job is completed
- monitor hazards and hazard controls.

Knowledge Evidence

Evidence must be provided that demonstrates knowledge of:

- different types of permits and the work they cover, including three (3) or more of:
  - cold work/general permit to work
  - excavation
  - hot work
  - vehicle entry
  - minor repairs
  - working at heights
  - confined space entry
  - other permit types as used on site
- the impact of the regulatory framework and organisation procedures under which the permit operates upon the particular job requiring the permit
- hazards associated with tasks covered by the permit and related hazard controls
- types of tests/inspections required for the issue of work permits including one (1) or more of:
  - atmospheric, oxygen/breathability
  - temperature
  - humidity
  - combustibles, oxygen, enriched or reduced
  - electricity
  - stored pressure/energy

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- flammability/explosivity
- toxicity
- electricity
- stored energy/pressure.

Assessment Conditions

- Competency must be achieved before performing this work unsupervised. Therefore this unit will typically be assessed off the job. Where assessment is undertaken on the job, appropriate supervision and safety precautions must be provided.
- 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 provide evidence of the ability to perform over the range of situations which might be expected to be encountered, including typical disruptions to normal, smooth work conditions
  - will typically 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.
- Off-the-job assessment must sufficiently reflect 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.
- Assessment in a simulated environment should use evidence collected from one or more of:
  - walk-throughs
  - 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.

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MSMPER201 Monitor and control work permits

Modification History

Release 1. Supersedes and is equivalent to MSAPMPER201A Monitor and control work permits

Application

This unit of competency covers the skills and knowledge required to monitor a work situation in which the activity is conducted under a permit to work. The individual will be required to monitor the work situation for conformance to the permit and immediately intervene if the parameters of the permit are not met or work proceeds outside the boundaries set by the permit.

This role is typically carried out by the plant operator for that area or other suitably qualified person.

The role of ‘hole watcher’ and ‘fire watcher’ are covered by MSMPER202 Observe permit work

This unit of competency carries a high level of responsibility and the level and area of responsibility of the role is typically prescribed by the permit process.

This unit of competency applies to the activities and functions associated with work carried out in a hazard controlled environment.

Not all sites/plants will have all permits. Some sites will call permits by other names, e.g. clearances.

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

Pre-requisite Unit

Nil

Competency Field

Work control systems

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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 and monitor permit conditions	1.1	Identify permit requirements
		1.2	Monitor conditions to ensure that the work being conducted conforms to the issued permit requirements
		1.3	Identify and communicate changes in the operating conditions or requirements of the permit to permit holders to ensure they are kept aware of any hazards
2	Control work permit systems	2.1	Check and verify the permit holder's knowledge of the issued permit and its requirements before allowing any work to be undertaken
		2.2	Control work activities to comply with the work permit system and safety procedures
		2.3	Undertake site inspections to ensure that the work to be undertaken is in sequence and completed in a safe and coordinated manner
		2.4	Identify hazards, and confirm with those undertaking the permitted work that control measures, as defined in the permit, are established
3	Identify and action non-compliance	3.1	Identify conditions of active permits
		3.2	Take corrective action upon incidences of non-compliance with permit conditions through the withdrawal or suspension of the issued permit
		3.3	Report and record incidents of non-compliance according to procedures

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4	Confirm compliance with permit	4.1	Complete checklists in accordance with standard procedures
		4.2	Document and communicate findings to appropriate 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.

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 requirement
- Dangerous Goods regulations
- Hazardous substances regulations
- Hazardous Substances Information System
- Major hazard facility requirements, if relevant
- Australian Standard AS 2865-2009 Confined spaces
- Australian Standard AS 1674 Set-2007 Safety in welding and allied processes (covers all hot work)
- Australian Standard AS 4024.1-2014 Series - Safety of machinery
- Australian Standard AS/NZ 1715:2009 Selection use and maintenance of respiratory protective equipment
- National Standard for Plant [NOHSC:1010 (1994)]
- National exposure standards for atmospheric contaminants in the

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occupational environment [NOHSC:1003 (1995)]

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:

- permit control system
- emergency procedures
- work instructions
- standard operating procedures (SOPs)
- safe work method statements (SWMS)
- temporary instructions
- any similar instructions provided for the smooth running of the plant

Work permits

Work permits include one or more of the following:

- cold work
- excavation
- vehicle entry
- minor repairs
- working at heights
- hot work
- confined space
- electrical
- increased hazard
- permits covering a single plant item or plant area, such as might be an operator's scope of responsibility
- other relevant permits

The work control (permit) system

The work permit system includes:

- types of permits
- legislative/regulatory/standards framework
- roles and responsibilities of parties under the permit system
- specifications for undertaking the work covered by a permit
- alternative ways of conducting a job

Work

Work specifications include one or more of the following:

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specifications

- any requirements for testing of atmospheric conditions and ventilation
- safety structures and control measures
- communications
- incident response
- equipment which can and cannot be used

Safety structures and control measures

Safety structures and control measures include one or more of the following:

- isolations
- lockout/tag out
- barriers and signage
- emergency response
- gas testing/atmosphere monitoring
- standby person
- other measures specified in the permit

Monitor

Monitor includes observing conditions of the workplace at a frequency appropriate to the risk and work practices, and includes one or more of the following:

- supervision/monitoring of contractors and/or employees
- verification of permits, licences and tests
- document control
- checking work activities against permit conditions, site-specific safety procedures and requirements and relevant legislation/codes
- identifying non-compliances
-

Tools and equipment

Tools and equipment include one or more of the following:

- locks and tags
- blinds/blanks
- blind/blank list
- gas testers and monitors
- barricades
- signage
- communications equipment
- process and equipment drawings
-

Hazards

Hazards include one or more of:

- process isolations incomplete

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- mechanical and electrical isolations not in place
- atmospheric testing incomplete and atmosphere not safe
- 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 where a fall is reasonably likely, in restricted or confined spaces, or in environments subjected to heat, noise, dusts, smoke, darkness, vapours or other atmospheric hazards
- 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

Unit Mapping Information

Release 1. Supersedes and is equivalent to MSAPMPER201A Monitor and control work permits

Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=d1287d36-dff4-4e9f-ad2c-9d6270054027

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Assessment Requirements for MSMPER201 Monitor and control work permits

Modification History

Release 1. Supersedes and is equivalent to MSAPMPER201A Monitor and control work permits

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 activities requiring a permit and type of permit required
- monitor the conditions of work under the permit
- identify changes in work and site circumstances that affect permit
- communicate effectively with team/work group and other personnel to:
  - explain the requirements of the permit
  - explain and verify complex issues and requirements relevant to permit conditions
  - withdraw or cause work to cease outside permit conditions
  - explain and implement safety and incident response procedures
- identify and report any non-conformance with permit conditions
- speak clearly and unambiguously in the language of the worksite
- complete workplace forms and reports
- differentiate between acceptable and unacceptable conditions

identify hazards and apply relevant hazard controls.

Knowledge Evidence

Evidence must be provided that demonstrates knowledge of:

- organisation procedures, including:
  - work permit systems
  - safety, emergency and hazard control
  - incident response
  - plant isolation and preparation requirements
  - relevant organisation procedures
- hazards that may arise in the job and plant, including:
  - their possible causes
  - potential consequences
  - appropriate risk controls
- functions and components of a permit system

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- types of permits, what they cover, limitations and associated hazards.

Assessment Conditions

- Competency must be achieved before performing this work unsupervised. Therefore this unit will typically be assessed off the job. Where assessment is undertaken on the job appropriate supervision and safety precautions must be provided.
- 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 provide evidence of the ability to perform over the range of situations which might be expected to be encountered, including typical disruptions to normal, smooth work conditions
  - must include the use of typical permits
  - may use industry-based simulation particularly where safety, lack of opportunity or significant cost is an issue.
- Off-the-job assessment must sufficiently reflect 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.
- Assessment in a simulated environment should use evidence collected from one or more of:
  - walk-throughs
  - 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

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MSMPER202 Observe permit work

Modification History

Release 1. Supersedes and is equivalent to MSAPMPER202A Observe permit work

Application

This unit of competency covers the skills and knowledge required to undertake the safety observer role for permits requiring a safety observer. This role may also be called a hole watcher or a fire watcher.

Safety observers can stop permit work, but do not have the authority to restart it.

This unit of competency applies to a member of the work team or an operator who performs this role.

Where the person is safety observer for confined space permit they should also be competent in confined space entry.

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

Pre-requisite Unit

Nil

Competency Field

Work control systems

Unit Sector

Elements and Performance Criteria

Elements describe the essential outcomes	Performance criteria describe the performance needed to demonstrate achievement of the element

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1	Prepare for the job	1.1	Check the permit issued is appropriate and sufficient for the work to be done
		1.2	Prepare a rescue/incident response plan in accordance with procedures
		1.3	Check plan is workable within the approved job procedures and issued permit
		1.4	Request revision of job procedures and/or permit to ensure rescue/incident response plan is practical
2	Control the permit site	2.1	Interpret the hazard controls required by the permit
		2.2	Check all hazard controls are operational and complied with at all times
		2.3	Maintain constant communication with workers as relevant to the job and permit
		2.4	Control entry to and exit from the worksite in accordance with the requirements of the permit
		2.5	Monitor the environment of the worksite and adjacent areas
		2.6	Monitor scope and location of work as defined by the permit
		2.7	Withdraw permit and shut down worksite if conditions vary from those required by the permit
3	Take appropriate action for potential incident	3.1	Ensure all required first response equipment is in the location specified by the permit and is in working condition
		3.2	Ensure all required monitoring is carried out as required by the permit
		3.3	Withdraw permit and shut down worksite in the event of an alarm or monitoring failure
		3.4	Raise the alarm in the event of an incident
		3.5	Implement rescue/incident response plan as required by procedures

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4	Complete safety observer role	4.1	Hand over to oncoming safety observer before leaving role
		4.2	Complete all required documentation and reports

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
- Dangerous Goods regulations
- Hazardous substances regulations
- Hazardous Substances Information System
- Major hazard facility requirements if relevant
- AS 2865-2009 Confined spaces
- AS 1674 Set-2007, Safety in welding and allied processes (covers all hot work)
- AS/NZ 1715:2009 Selection use and maintenance of respiratory protective equipment
- National exposure standards for atmospheric contaminants in the occupational environment [NOHSC:1003 (1995)]

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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:

- permit control system
- emergency procedures
- work instructions
- standard operating procedures (SOPs)
- safe work method statements (SWMS)
- temporary instructions
- any similar instructions provided for the smooth running of the plant

Work permits

Work permits include one or more of the following:

- cold work
- excavation
- vehicle entry
- minor repairs
- working at heights
- hot work
- confined space
- electrical
- increased hazard
- permits covering a single plant or plant area such as might be an operator's scope of responsibility
- other relevant permits

The work permit system

The work permit system includes:

- types of permits
- legislative/regulatory/standards framework
- roles and responsibilities of parties under the permit system
- specifications for undertaking the work covered by a permit
- alternative ways of conducting a job

Work specifications

Work specifications include:

- any requirements for testing of atmospheric conditions and

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ventilation
- safety structures and control measures
- communications
- incident response
- equipment which can and cannot be used

Safety structures and control measures

Safety structures and controls measures include one or more of the following:

- isolations
- lockout/tag out
- barriers and signage
- emergency response
- gas testing/atmosphere monitoring
- standby person
- other measures specified in the permit

Hazards

Hazards include one or more of the following:

- process isolations incomplete
- mechanical and electrical isolations not in place
- atmospheric testing incomplete and atmosphere unsafe
- 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

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- extreme weather
- other hazards that might arise

Unit Mapping Information

Release 1. Supersedes and is equivalent to MSAPMPER202A Observe permit work

Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=d1287d36-dff4-4e9f-ad2c-9d6270054027

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Assessment Requirements for MSMPER202 Observe permit work

Modification History

Release 1. Supersedes and is equivalent to MSAPMPER202A Observe permit 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 and demonstrate the ability to:

- read and interpret the safety and hazard control requirements of permit conditions
- prepare a rescue/incident response plan in accordance with procedures
- ensure workable rescue/incident response plan is in place and aligns with procedures and permit conditions
- ensure first response equipment is available and in working condition
- observe safety and hazard aspects of work activities under the permit and monitor conformance to permit conditions
- communicate effectively with team/work group and other personnel to:
  - explain and implement safety and incident response procedures
  - explain the requirements of the permit
  - withdraw or cause work to cease outside permit conditions
  - control entry to and exit from the job site
  - handover to oncoming safety observer
- speak clearly and unambiguously in the language of the worksite
- complete workplace forms and reports.

Knowledge Evidence

Evidence must be provided that demonstrates knowledge of:

- organisation procedures, including:
  - work permit systems
  - safety, emergency and hazard control
  - incident response
  - relevant organisation procedures
- hazards that may arise in the job and plant, including:
  - their possible causes
  - potential consequences
  - appropriate risk controls
- types of permits, what they cover and associated hazards
- scope and limitations of own role and responsibilities.

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Assessment Conditions

- Competency must be achieved before performing this work unsupervised. Therefore this unit will typically be assessed off the job. Where assessment is undertaken on the job appropriate supervision and safety precautions must be provided.
- 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 provide evidence of the ability to perform over the range of situations which might be expected to be encountered, including typical disruptions to normal, smooth work conditions
  - must include the use of typical permits and situations
  - may use industry-based simulation particularly where safety, lack of opportunity or significant cost is an issue.
- Off-the-job assessment must sufficiently reflect 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.
- Assessment in a simulated environment should use evidence collected from one or more of:
  - walk-throughs
  - 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

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MSMPER205 Enter confined space

Modification History

Release 2. Adjustment to Assessment Requirements to meet industry requirements. Equivalent outcomes.

Release 1. Supersedes and is equivalent to MSAPMPER205C Enter confined space

Application

This unit of competency is required by persons who are required to enter a confined space, as defined by the Australian Standard *AS 2865-2009 Confined spaces*, or its authorised update or replacement.

This unit of competency covers the skills and knowledge required for safe entry to confined spaces under a work permit and for maintaining safety while working in the confined space. The term ‘work permit’ (or ‘permit’) includes all written authorities as defined by *AS 2865-2009 Confined spaces*. It applies to persons required to enter confined spaces for any purpose, including maintenance, cleaning, inspection or other reasons.

Work in/entry to confined spaces shall conform to relevant legislation and *AS 2865-2009 Confined spaces*, or its authorised update or replacement.

AS 2865-2009 Confined spaces defines a confined space as:

'An enclosed or partially enclosed space that is not intended or designed primarily for human occupancy, within which there is a risk of one or more of the following:

(a) An oxygen concentration outside the safe oxygen range.

(b) A concentration of airborne contaminant that may cause impairment, loss of consciousness or asphyxiation.

(c) A concentration of flammable airborne contaminant that may cause injury from fire or explosion.

(d) Engulfment in a stored free-flowing solid or a rising level of liquid that may cause suffocation or drowning.'

Entry to a confined space is defined by *AS 2865-2009 Confined spaces* as: 'when a person's head or upper body is within the boundary of the confined space’.

NOTE: Inserting an arm for the purpose of atmospheric testing is not considered as entry to a confined space.'

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

Pre-requisite Unit

MSMPER200 Work in accordance with an issued permit

Competency Field

Work control systems

Unit Sector

Elements and Performance Criteria

Elements describe the essential outcomes		Performance criteria describe the performance needed to demonstrate achievement of the element	
1	Assess confined space for entry	1.1	Confirm the purpose of the required entry
		1.2	Check the documented risk assessment associated with the entry to the confined space
		1.3	Identify and assess hazards within/around the confined space
		1.4	Identify hazard controls and check they are functional and appropriate.
		1.5	Check the incident/emergency response plan is appropriate to the job
		1.6	Rehearse own role in an incident/emergency response
		1.7	Confirm and verify that the conditions of the permit reflect the risk assessment
		1.8	Ensure the confined space is ready for entry
2	Use safety	2.1	Secure the worksite

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	equipment and personal protective equipment (PPE)	2.2	Select, fit and wear designated PPE
		2.3	Select, test and use required instruments and monitors
		2.4	Challenge test atmosphere/atmospheric monitoring instrument if required before entry
		2.5	Confirm test/monitoring results show entry is safe
3	Work in accordance with confined space requirements	3.1	Enter confined space safely
		3.2	Work in compliance with permit requirements
		3.3	Arrange re-authorisation/reissue of permits as required
		3.4	Complete confined space working documentation
		3.5	Maintain communications with all relevant personnel
		3.6	Monitor atmosphere within the confined space as required by the permit
		3.7	Monitor environment around the confined space for relevant changes
		3.8	Take appropriate action if there is a change in risk/work environment
4	Conclude confined space operations in accordance with procedures	4.1	Recover, clean, service and store equipment
		4.2	Complete required final documentation
		4.3	Report any issues

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.

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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
- *AS 2865-2009 Confined spaces*

All operations to which this unit applies are subject to stringent health, safety and environment (HSE) requirements, which may be imposed through state/territory or federal legislation, and these must not be compromised at any time. Where there is an apparent conflict between performance criteria and HSE requirements, the HSE requirements take precedence.

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:

- permit to work system
- emergency procedures
- work instructions
- standard operating procedures (SOPs)
- safe work method statements (SWMS)
- temporary instructions
- any similar instructions provided for the smooth running of the plant

Confined space permit

The confined space permit must meet the requirements of *AS 2865-2009 Confined spaces*, its authorised replacement or other

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appropriate standard.

Conditions of the permit include:

- hazard controls
- PPE
- instruments and monitors to be used
- re-authorisation/reissue requirements
- other specifications for the work

Ready for entry

Checking the confined space is ready for entry includes checking:

- isolations are complete and appropriate
- isolation complies with regulations, standards and procedures
- atmosphere is safe (or if necessary relevant measures are in place to ensure safe entry into an unsafe atmosphere)
- safe entry and exit methods are in place
- other items to ensure compliance with procedures, permits, relevant legislation and *AS 2865-2009 Confined spaces*.

Where the confined space is not ready for entry appropriate steps must be taken, including reporting deficiencies and/or refusing to enter the space.

Secure worksite

Securing the worksite includes selecting and erecting/deploying one or more of the following:

- signs
- barriers
- other requirements as defined in the confined space entry permit requirements, *AS 2865-2009 Confined spaces* and other relevant requirements

Tools and equipment

Tools and equipment include one or more of the following:

- instruments and monitors:
- instruments used for pre-entry testing appropriate to the hazards
- continuous monitors appropriate for the hazards
- other devices used to test the confined space atmosphere
- PPE, such as:
  - eye protection

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- ear protection
- gloves
- clothing
- respiratory protection
- helmets
- safety footwear
- lifelines and harnesses
- personal monitors and alarms
- other relevant PPE

- communication equipment
- voice/visual contact
- lifeline communication
- radio communication
- other relevant communication aids

Re-authorisation/reissue of permits

Requirements for re-authorisation/reissue of permits are required by one or more of the following situations:

- there is any change to work scope or method
- the work situation/workplace conditions changes
- there are deviations from permit conditions
- there is a gap in work continuity
- other site rules require it

Working documentation

Working documentation includes one or more of the following:

- entry/exit/re-entry logs
- other documentation required by *AS 2865-2009 Confined spaces* (e.g. Section 2.9)
- other documentation required by the permit
- other documentation required by the site

Appropriate action if there is a change in risk

Where there is a change in risk/work environment appropriate action includes one or more of the following:

- seeking revalidation of the permit
- evacuating the confined space
- instigating/undertaking testing
- raising the alarm
- initiating the emergency/incident response plan
- other relevant action defined in permit conditions or site procedures

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Final documentation

Final documentation includes one or more of the following:

- signing-off of permit
- documentation related to equipment used
- other required records

Reporting of issues

Reporting of issues includes:

- feedback about the work and methods of improving the work process
- signs and symptoms of operational stress
- equipment malfunctions
- wear and tear of equipment and tools
- condition of safety/rescue equipment
- observations about the condition of the confined space
- other issues that might arise

Hazards

Hazards include one or more of the following:

- heat, smoke, dust or other atmospheric hazards
- sharp edges, protrusions or obstructions
- limited head spaces or overhangs
- equipment or product mass
- slippery surfaces, spills or leaks
- noise, rotational equipment or vibration
- high/low oxygen content
- hazardous atmospheres (e.g. combustible and toxic)
- entrapment
- engulfment
- heat stress
- claustrophobia
- external hazards that may impact on the safety of those working in the confined space (e.g. exhaust fume or other hazardous vapours being drawn into the confined space by ventilation fans)
- other hazards as identified in *AS 2865-2009 Confined spaces*
- electricity
- gases and liquids under pressure
- structural hazards/collapse
- equipment failures

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- industrial (machinery, equipment and product)
- equipment or product mass
- working where there is a reasonable risk of a fall
- flammability and explosivity
- unauthorised personnel
- extreme weather
- other hazards that might arise

Unit Mapping Information

Release 2. Adjustment to Assessment Requirements to meet industry requirements. Equivalent outcomes.

Release 1. Supersedes and is equivalent to MSAPMPER205C Enter confined space

Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=d1287d36-dff4-4e9f-ad2c-9d6270054027

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Assessment Requirements for MSMPER205 Enter confined space

Modification History

Release 2. Adjustment to Assessment Requirements to meet industry requirements. Equivalent outcomes.

Release 1. Supersedes and is equivalent to MSAPMPER205C Enter confined space

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 hazards and apply relevant hazard controls
- undertake all checks and preparation in accordance with permit conditions and site procedures
- check that hazard controls are in place and operational
- confirm the permit conditions reflect risk assessment and confined space is ready for entry
- enter the confined space and carry out actions specified in the permit/standard procedures, including all safety procedures
- monitor the conditions of work under the permit
- interpret and respond to gas test/monitoring results
- initiate incident/emergency response plan
- select, use and maintain equipment, including:
  - instruments and monitors
  - personal protective equipment (PPE)
- use communication equipment and processes applicable to confined space work
- communicate effectively with team/work group and other personnel in the language of the workplace
- complete required workplace forms.

Knowledge Evidence

Evidence must be provided that demonstrates knowledge of:

- organisation procedures, including:
  - work permit systems
  - safety, emergency and hazard controls
  - incident response
- hazards that may arise in relation to the confined space, including:
  - their possible causes
  - potential consequences
  - appropriate risk controls

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- communication protocols relevant to confined space requirements
- tests relevant to confined space entry and the interpretation of test results, including at least one (1) of:
  - atmospheric/oxygen/breathability
  - flammability/explosivity
  - toxicity
  - temperature
  - humidity.

Assessment Conditions

- Competency must be achieved before performing this work unsupervised. Therefore this unit will typically be assessed off the job. Where assessment is undertaken on the job appropriate supervision and safety precautions must be provided.
- It is appropriate to train and assess the prerequisite unit *MSMPER200 Work in accordance with an issued permit* concurrently. It may also be appropriate to cluster other related units and deliver and assess concurrently.
- 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 will require a 'practical assessment' which:
  - requires entry, compliant with Section 3.4.29 of *AS 2865-2009 Confined spaces*, on more than one occasion into confined spaces which are reasonable facsimiles of an industrial confined space
  - requires the conduct of a simple task ('work'), while within each confined space
  - requires the entry to be under a confined space entry permit, the permitting system and the permit itself to be reasonable facsimiles of industrial permits and systems
  - requires the person to undertake all checks and complete all documentation that is required for the confined space entry.
- The confined space used should be a reasonable facsimile of an industrial confined space. The use of breathing apparatus and black out goggles is not required for this unit.
- Assessment must sufficiently reflect 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.
- 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.

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- 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

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MSMPER300 Issue work permits

Modification History

Release 2. Addition of information missing from the Assessment Requirements. Equivalent.

Release 1. Supersedes and is equivalent to MSAPMPER300C Issue work permits

Application

This unit of competency covers the skills and knowledge required to issue work permits. It covers an understanding of the permit system and the limitations of each permit, and making decisions regarding the need for and correct use of each permit. This unit includes the issue of any and all permits. Permits are called ‘clearances’ by some organisations.

This unit of competency applies to personnel who are required to issue appropriate permits to work to persons conducting a variety of activities in workplace environments in which hazards exist or specific procedures need to be followed and monitored to protect the safety of personnel and the integrity of plant or process.

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.

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

Pre-requisite Unit

MSMWHS201 Conduct hazard analysis

Competency Field

Work control systems

Unit Sector

Elements and Performance Criteria

Elements describe the Performance criteria describe the performance needed to

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essential outcomes		demonstrate achievement of the element	
1	Identify need for work permit	1.1	Identify work permit needed from job scope
		1.2	Confirm with appropriate personnel the need for work permit
2	Ensure job site is prepared for authorised work	2.1	Inspect the job site
		2.2	Identify work health and safety (WHS) and environmental requirements
		2.3	Conduct hazard identification and risk assessment
		2.4	Ensure job site is prepared in accordance with specified work permit conditions
		2.5	Check permit conditions and report to appropriate personnel
		2.6	Conduct job site testing in accordance with procedures
3	Raise and issue work permits	3.1	Ensure conditions are documented on permit
		3.2	Ensure appropriate testing is carried out and results documented in accordance with procedures
		3.3	Determine an appropriate validity period
		3.4	Check that permit conditions are met (i.e. validate permit)
		3.5	Complete and authorise permit
		3.6	Ensure recipient is advised of and agrees to abide by the requirements of the permit
		3.7	Ensure recipient signs permit
4	Monitor work for compliance	4.1	Ensure regular job site inspections are done
		4.2	Monitor conditions and work progress and respond

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			appropriately to changing conditions and circumstances
		4.3	Ensure permit currency and revalidate as required
		4.4	Ensure permit is displayed in accordance with procedures
		4.5	Identify and act on incidences of non-compliance and report promptly to relevant personnel
		4.6	Withdraw/cancel permit if conditions warrant it
		4.7	Report any issues which arise with regard to work under the permit in accordance with procedures
5	Receive end of day report	5.1	Receive end of day report from permit recipients
		5.2	Confirm job progress and status.
		5.3	Revalidate/arrange for revalidation of permit as required
		5.4	Confirm work area has been left safe
		5.5	Handover ongoing permits and status of suspended permits to oncoming shift
6	Close work permit	6.1	Inspect job status
		6.2	Check that work undertaken satisfies permit conditions
		6.3	Ensure that work site is ready for a safe return to working conditions
		6.4	Check required returns to work status have been completed
		6.5	Sign off documentation and close permit in accordance with procedures
		6.6	Communicate worksite and process status to relevant personnel

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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
- Dangerous Goods regulations
- Hazardous substances regulations
- Hazardous Substances Information System
- Australian Standard AS 2865 2009 Confined spaces
- Australian Standard AS 1674 Set-2007, Safety in welding and allied processes (covers all hot work)
- Australian Standard AS 4024.1-2014 Series - Safety of machinery
- Australian Standard AS/NZ 1715:2009 Selection use and maintenance of respiratory protective equipment
- National Standard for Plant [NOHSC:1010 (1994)]
- National exposure standards for atmospheric contaminants in the occupational environment [NOHSC:1003 (1995)]

Procedures

All operations are 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
- workplace procedures

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- work instructions
- standard operating procedures (SOPs)
- safe work method statements (SWMS)
- temporary instructions
- company policy and permit control systems

Work permits

Work permits include one or more of the following:

- cold work
- excavation
- vehicle entry
- minor repairs
- working at heights
- hot work
- confined space
- electrical
- increased hazard
- permits covering a single plant or plant area, such as might be an operator's scope of responsibility
- other relevant permits

The work permit system

The work permit system includes:

- types of permits
- legislative/regulatory/standards framework
- roles and responsibilities of parties under the permit system
- specifications for undertaking the work covered by a permit
- alternative ways of conducting a job

Work specifications

Work specifications include:

- any requirements for testing of atmospheric conditions and ventilation
- safety structures and control measures
- communication
- incident response
- equipment which can and cannot be used

Safety structures and control measures

Safety structures and control measures include one or more of the following:

- isolations

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- lockout/tag out
- barriers and signage
- emergency response
- gas testing/atmosphere monitoring
- standby person
- other measures specified in the permit

Confined space

AS 2865 2009 Confined spaces definition given for confined space is used in this Training Package, i.e.:

'An enclosed or partially enclosed space that is not intended or designed primarily for human occupancy, within which there is a risk of one or more of the following:

(a) An oxygen concentration outside the safe oxygen range

(b) A concentration of airborne contaminant that may cause impairment, loss of consciousness or asphyxiation

(c) A concentration of flammable airborne contaminant that may cause injury from fire or explosion

(d) Engulfment in a stored free-flowing solid or a rising level of liquid that may cause suffocation or drowning'

Hot work

Hot work includes:

- any activity which has the potential to be or cause a source of ignition

Hazards

Hazards include one or more of the following:

- slip/trip hazards
- PPE unavailable and not functional
- emergency equipment unavailable
- smoke, darkness and heat
- heat, smoke, dust or other atmospheric hazards
- electricity
- gas
- gases and liquids under pressure
- structural hazards
- structural collapse
- equipment in unsafe condition with hazard controls not functional
- industrial (machinery, equipment and product)
- equipment or product mass
- noise, rotational equipment or vibration

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- 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, swarf and scrap
- spills or leaks
- extreme weather
- unsafe conditions developing through failure to conform with the provisions of a work permit
- hazards created by the nature or location of the work
- hazards created by the proximity of the work to other work or normal operations
- other hazards that might arise

Unit Mapping Information

Release 2. Addition of information missing from the Assessment Requirements. Equivalent.

Release 1. Supersedes and is equivalent to MSAPMPER300C Issue work permits

Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=d1287d36-dff4-4e9f-ad2c-9d6270054027

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Assessment Requirements for MSMPER300 Issue work permits

Modification History

Release 2. Addition of information missing from the Assessment Requirements. Equivalent.

Release 1. Supersedes and is equivalent to MSAPMPER300C Issue work permits

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:

- recognise types of work permits required for different situations
- undertake and interpret hazard analysis
- conduct and interpret tests/inspections for gas or other hazards, including one or more of:
  - atmospheric, including explosivity
  - flammability
  - toxicity
  - temperature
  - humidity
  - combustibles, oxygen, enriched or reduced
  - electricity
  - stored pressure/energy
- ensure correct preparation of worksite is undertaken, including one or more of:
  - mechanical, electrical and other energy sources, and process isolations
  - de-energising all sources of energy/pressure
  - purging of plant
  - ventilation of plant
  - lockout/tag out procedures
  - blinding/blanking lines
  - other hazard controls
- ensure supervision/monitoring of people working under the permit
- speak clearly and unambiguously in the language of the worksite.

Knowledge Evidence

Evidence must be provided that demonstrates knowledge of:

- the organisation's work control system
- types of permits and their application
- hazards of the area for which permit is being issued

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- hazards that may be created by the interactions of the permit, the job, the process and the plant area
- focus of operation of work systems and equipment.

Assessment Conditions

- Competency must be achieved before performing this work unsupervised. Therefore this unit will typically be assessed off the job. Where assessment is undertaken on the job appropriate supervision and safety precautions must be provided.
- 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 provide evidence of the ability to perform over the range of situations which might be expected to be encountered, including typical disruptions to normal, smooth work conditions
  - will require the issuing of example permits for realistic case study situations
  - may use industry-based simulation particularly where safety, lack of opportunity or significant cost is an issue.
- Off-the-job assessment must sufficiently reflect 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.
- Assessment in a simulated environment should use evidence collected from one or more of:
  - walk-throughs
  - 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.

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Links

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MSMPER400 Coordinate permit process

Modification History

Release 1. Supersedes and is equivalent to MSAPMPER400A Coordinate permit process

Application

This unit of competency covers the skills and knowledge required for the issuing and auditing of any and all permits across multiple plant areas or an entire site. It covers both the issuing of permits directly and also the coordination of permits issued by others. It focuses on potential conflicts between work being undertaken as well as checking that the permit system is being used correctly.

This unit of competency requires the application of detailed operational and process knowledge which is applied to coordinating permits, overseeing plant preparations and testing for permit work.

This competency is typically performed by a senior process technician. This may be a routine job, a role in part of a job or a temporary role in a shut down or similar.

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

Pre-requisite Unit

MSMPER300 Issue work permits

Competency Field

Work control systems

Unit Sector

Elements and Performance Criteria

Elements describe the essential outcomes	Performance criteria describe the performance needed to demonstrate achievement of the element

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1	Assess planned work for conflicts	1.1	Identify all work planned for a time period
		1.2	Determine the scope and health safety and environment (HSE) impacts of each planned job
		1.3	Confirm hazard analysis and controls for each planned job
		1.4	Compare hazard profiles for each planned job
		1.5	Identify conflicts between planned jobs
		1.6	Negotiate a solution between conflicts
		1.7	Communicate results of negotiations to relevant stakeholders
2	Issue required permits	2.1	List those jobs which will be allowed to proceed in the time period
		2.2	Confirm hazard controls required for these jobs
		2.3	Identify jobs which have impacts across plant areas
		2.4	Ensure controls and communications are adequate
		2.5	Issue/cause to be issued required permits
		2.6	Report as required by procedures
3	Audit live permits	3.1	Audit plant preparations.
		3.2	Audit permit issuing process
		3.3	Check appropriate controls have been specified
		3.4	Audit handover/sign-on process
		3.5	Audit work in progress for conformance to permit conditions
		3.6	Audit work completion and hand back/close out process
		3.7	Audit deisolation and return to work preparations

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		3.8	Take immediate and appropriate action on any problems found
		3.9	Report on audit as required by procedures
4	Audit past permits	4.1	Obtain relevant paper work
		4.2	Check for conformance to procedures
		4.3	Check for appropriateness of specified hazard controls
		4.4	Identify any non-conformance
		4.5	Identify systemic non-conformances
		4.6	Take any immediate action which is appropriate
		4.7	Report on audit as required by procedures
5	Analyse audit findings	5.1	Identify improvements to the permit system
		5.2	Identify improvements to the implementation of the permit system
		5.3	Suggest improvements to the permit system as appropriate
		5.4	Suggest improvements to hazard analysis processes
		5.5	Suggest improvements to the plant preparation/return to operations processes
		5.6	Suggest improvements to hazard controls
		5.7	Suggest training required as appropriate

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.

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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
- Dangerous Goods regulations
- Hazardous substances regulations
- Hazardous Substances Information System
- AS 2865 2009 Confined spaces
- AS 1674 Set-2007, Safety in welding and allied processes (covers all hot work)
- AS 4024.1-2014 Series - Safety of machinery
- AS/NZ 1715:2009 Selection use and maintenance of respiratory protective equipment
- National Standard for Plant [NOHSC:1010 (1994)]
- National exposure standards for atmospheric contaminants in the occupational environment [NOHSC:1003 (1995)]

All operations to which this unit applies are subject to stringent HSE requirements, which may be imposed through state/territory or federal legislation, and these must not be compromised at any time. Where there is an apparent conflict between performance criteria and HSE requirements, the HSE requirements take precedence.

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:

- permit control system
- emergency procedures
- work instructions

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- standard operating procedures (SOPs)
- safe work method statements (SWMS)
- temporary instructions
- any similar instructions provided for the smooth running of the plant

Work permits

Work permits include one or more of the following:

- cold work
- excavation
- vehicle entry
- minor repairs
- working at heights
- hot work
- confined space
- electrical
- increased hazard
- other relevant permits

The work permit system

The work permit system includes:

- types of permits
- legislative/regulatory/standards framework
- roles and responsibilities of parties under the permit system
- specifications for undertaking the work covered by a permit
- alternative ways of conducting a job

Under a work permit system a 'competent person' is a person who has, through a combination of training, education or experience, acquired knowledge and skills enabling that person to correctly perform a specified task.

Work specifications

Work specifications include:

- any requirements for testing of atmospheric conditions and ventilation
- safety structures and control measures
- communication
- incident response
- equipment which can and cannot be used
- re-authorisation/reissue requirements
- revalidation requirements

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Safety structures and control measures Safety structures and control measures include one or more of the following:

- isolation
- barriers
- lockout/tag out signs and procedures
- automatic plant shutdown buttons
- cords/lanyards
- alarms
- barriers
- guards
- earth leakage devices
- warning lights

Live permits Live permits are permits that apply to work currently being done

Past permits Past permits are permits that have been handed back/closed out

Audit permits Auditing of permits requires one or more of the following:

- selecting an individual permit and following it through
- spot checking key aspects of permits
- intensively checking one aspect of the process with all permits on issue

Unit Mapping Information

Release 1. Supersedes and is equivalent to MSAPMPER400A Coordinate permit process

Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=d1287d36-dff4-4e9f-ad2c-9d6270054027

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Assessment Requirements for MSMPER400 Coordinate permit process

Modification History

Release 1. Supersedes and is equivalent to MSAPMPER400A Coordinate permit process

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:

- prepare and issue at least one (1) permit from three (3) different permit types
- analyse and resolve two (2) or more jobs with the potential to have conflict
- prepare at least one (1) audit report on live permits and one (1) on past permits, including the analysis of the audit findings
- analyse all current and proposed work to determine hazard controls and permit requirements
- coordinate the issue of permits for planned jobs
- ensure that issued permits specify appropriate conditions
- plan and undertake audits of live and past permits
- analyse audit results and identify improvements
- identify non-conformances and take appropriate action
- communicate effectively with team/work group and other personnel.

Knowledge Evidence

- Evidence must be provided that demonstrates knowledge of:
- organisation work control system procedures
- the operations of the plant and each major unit in it
- hazards that may arise in plant materials, processes and process conditions, including:
  - their possible causes
  - potential consequences
  - appropriate risk controls
  - hierarchy of control
- plant preparation and isolation procedures

auditing principles.

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:

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  - should provide evidence of the ability to perform over the range of situations which might be expected to be encountered, including typical disruptions to normal, smooth work conditions
  - may use industry-based simulation particularly where safety, lack of opportunity or significant cost is an issue.
- Off-the-job assessment must sufficiently reflect 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.
- Assessment in a simulated environment should use evidence collected from one or more of:
  - walk-throughs
  - 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

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MSMPMC200 Organise self

Modification History

Release 1. New Unit. Supersedes and is equivalent to PMC561080B Organise self

Application

This unit describes the skills and knowledge required to set individual work priorities in the manufacturing industry.

This unit applies to operators who are required to identify and prioritise allocated work activities, break down activities into achievable components, follow procedures and identify and act on problems.

This unit applies to an individual working alone or as part of a team or group and in liaison with other shift team members, team leader and supervisor.

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

Support

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 work activities	1.1 Identify individual work activities that have been allocated 1.2 Prioritise work activities as directed 1.3 Locate relevant procedures and instructions

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Elements	Performance Criteria
Elements describe the essential outcomes.	*Performance criteria describe the performance needed to demonstrate achievement of the element.*
2. Organise daily work activities	2.1 Break down work activities into achievable components 2.2 Record activities as required according to procedures and work instructions
3. Follow work plan	3.1 Undertake tasks in accordance with schedules, procedures and instructions 3.2 Identify situations which might make following the plan difficult and review plan with appropriate 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 1. Supersedes and is equivalent to PMC561080B Organise self

Links

Companion Volume Implementation Guides are available at VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=d1287d36-dff4-4e9f-ad2c-9d6270054027

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Assessment Requirements for MSMPMC200 Organise self

Modification History

Release 1. New Unit. Supersedes and is equivalent to PMC561080 Organise self

Performance Evidence

There must be evidence the candidate has completed the tasks outlined in the elements and performance criteria of this unit, and:

- identified, prioritised, organised and implemented work activities to meet requirements of procedures and work instructions on at least 1 occasion

Knowledge Evidence

There must be evidence the candidate has knowledge of:

- sources of information about allocated work activities, procedures, timelines, schedules and work priorities
- methods for identifying steps and components of work activities to prioritise and implement
- routine problems, their probable causes and relevant corrective actions
- organisation procedures relevant to the work environment and job role.

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 available at VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=d1287d36-dff4-4e9f-ad2c-9d6270054027

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MSMPMC300 Produce structural precast concrete

Modification History

Release 1. New unit. Supersedes and is equivalent to PMC553051 Produce structural precast concrete

Application

This unit describes the skills and knowledge required to produce structural precast and pre-stressed concrete products, including beams and girders.

This unit applies to experienced operators who are required to take responsibility for own outputs and follow established procedures to assemble moulds and reinforcement; mould, cure and strip the product and control quality. Operators are also required to work autonomously and apply their own judgement to interpret information; monitor processes; identify and address routine and non-routine problems and control hazards.

The unit applies to an experienced operator working alone or as part of a team or group and in liaison with other shift team members, team leader and supervisor.

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

Operations

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 mould for	1.1 Check casting schedule and job specification

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Elements	**Performance Criteria**
Elements describe the essential outcomes.	*Performance criteria describe the performance needed to demonstrate achievement of the element.*
casting	1.2 Clean and oil moulds according to requirements 1.3 Check for mould damage and repair
2. Assemble reinforcement cage	2.1 Lift preassembled reinforcing sections into mould safely 2.2 Assemble additional steel to complete cage to drawings and job specification 2.3 Fit additional items, including base plates, tie plates and lifting devices, according to work instructions 2.4 Fit hold-ups and hold-downs as appropriate 2.5 Place voids or ducts according to work specifications 2.6 Run pre-stressing strands through reinforcing cages 2.7 Set up guards and comply with WHS requirements for stressing 2.8 Tension strands to extension dimensions and/or gauge readings according to works or engineer instructions 2.9 Recheck reinforcing cage is in correct position and adjust as necessary
3. Close mould and test vibrators	3.1 Lift mould sides and additional parts into position and secure to specification 3.2 Fit any additional items 3.3 Seal mould 3.4 Fit vibrators to start positions 3.5 Test run before casting commences
4. Pour concrete	4.1 Begin casting in accordance with work instructions 4.2 Move vibrators and time vibration 4.3 Screed top surface flat in preparation for final finish 4.4 Patch product 4.5 Clean mould and worksite in accordance with WHS requirements
5. Control concrete quality	5.1 Test raw materials 5.2 Prepare test cylinders and samples 5.3 Monitor and control concrete mix to keep within specifications 5.4 Update all records and file all records and supplier certificates in appropriate place

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Elements	**Performance Criteria**
Elements describe the essential outcomes.	*Performance criteria describe the performance needed to demonstrate achievement of the element.*
	5.5 Raise non-conformance reports
6. Cure product	6.1 Cover and cure mould and test cylinders in accordance with standard procedures and work instructions 6.2 Monitor curing to achieve specified stripping strength
7. Strip and store product	7.1 Test samples to ensure specific strength has been achieved 7.2 Remove mould sides and store ready for cleaning 7.3 De-stress in accordance with work procedures and sequences 7.4 Lift unit according to work instructions and move to store, supported only on points designated on the drawings
8. Respond to problems	8.1 Identify routine and non-routine problems in the equipment or process 8.2 Rectify problems using appropriate solution within area of responsibility 8.3 Report problems outside area of responsibility to designated person
9. Control hazards	9.1 Identify structural precast and pre-stressed concrete production hazards 9.2 Assess the risks arising from those hazards 9.3 Implement measures to control those risks

Foundation Skills

This section describes those required skills (language, literacy and numeracy) that are essential to performance.

Foundation skills essential to performance are explicit in the performance criteria of this unit of competency.

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Unit Mapping Information

Release 1. New unit. Supersedes and is equivalent to PMC553051 Produce structural precast concrete

Links

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Assessment Requirements for MSMPMC300 Produce structural precast concrete

Modification History

Release 1. New unit. Supersedes and is equivalent to PMC553051 Produce structural precast concrete

Performance Evidence

There must be evidence the candidate has completed the tasks outlined in the elements and performance criteria of this unit, and:

- produced at least 1 structural precast concrete product, including:
  - monitoring the following key variables to ensure product integrity and conformance to specification:
    - mould condition
    - amount and consistency of concrete mix
    - placement and anchorage of reinforcement and fittings
    - placement of voids and ducts
    - tension of reinforcement
    - concrete cover
    - compaction and vibration
    - curing conditions
    - curing time and rate
    - stripping strength
  - recognising possible causes of the following routine problems:
    - raw material and mix variations
    - mould anomalies
    - casting and operating conditions
    - reinforcement abnormalities
    - process errors.
    -

Knowledge Evidence

There must be evidence the candidate has knowledge of:

- principles of casting process
- significance to structural concrete products of key factors, including:
  - concrete cover
  - role of reinforcement

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  - placement and anchorage of reinforcement and fittings
  - stressing and destressing
  - curing
  - compaction and vibration
  - formwork and specialised formwork (including voids and ducts)
  - mould design
  - mould condition and wear
  - water and cement ratio
  - concrete finishing
- methods of:
  - curing
  - compaction
  - fabrication
- concrete sampling and testing procedures
- the potential effects of variations in raw materials and equipment operation and processes in relation to quality of product
- quality requirements at each stage of production
- common adjustments in variables and their impact on product quality and production output
- routine and non-routine problems, their probable causes and relevant corrective actions
- hazards from critical stages of pre-stressing reinforcement (placement, stressing, de-stressing, cutting)
- work health and safety (WHS) requirements relevant to work outcome
- structural precast and pre-stressed concrete production hazards and:
  - their possible causes
  - potential consequences
  - risk control procedures.
  -

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:
  - structural precast concrete equipment and ancillary equipment
  - materials to be processed
  - specifications, procedures and job sheets
- modelling of industry operating conditions, including:
  - routine and non-routine problems.

Assessors must satisfy the NVR/AQTF mandatory competency requirements for assessors.

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MSMPMC301 Store materials for production

Modification History

Release 1. New unit. Supersedes and is equivalent to PMC561072 Store materials for production

Application

This unit describes the skills and knowledge required to store and maintain quantities of production materials.

This unit applies to operators who are required to take responsibility for own outputs and follow established procedures to transfer and store materials, check quantities and quality of materials and check equipment. Operators are also required to work autonomously and apply their own judgement to interpret information; monitor processes; identify and address routine and non-routine problems and control hazards.

This unit applies to an individual working alone or as part of a team or group and in liaison with other shift team members, team leader and supervisor.

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

Support

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. Store materials	1.1 Check quantity, quality and transfer of materials

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Elements	Performance Criteria
Elements describe the essential outcomes.	*Performance criteria describe the performance needed to demonstrate achievement of the element.*
	1.2 Transfer and store materials safely in designated locations 1.3 Complete all necessary documentation
2. Monitor material in storage	2.1 Check and maintain supplies of materials 2.2 Check equipment used to keep stored materials in required state 2.3 Implement procedures to keep required level and quality of stored materials
3. Check stored materials	3.1 Sample materials 3.2 Check quality of materials 3.3 Visually check that bins, hoppers and tanks are free from contamination
4. Rectify routine problems	4.1 Identify and rectify contamination, faults and equipment failure 4.2 Maintain records and log books of equipment operations 4.3 Identify non-routine problems and report to designated person
5. Identify hazards	5.1 Identify material storage hazards 5.2 Implement hazard controls according to procedures 5.3 Report safety concerns according to 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.

Unit Mapping Information

Release 1. New unit. Supersedes and is equivalent to PMC561072 Store materials for production

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Assessment Requirements for MSMPMC301 Store materials for production

Modification History

Release 1. New unit. Supersedes and is equivalent to PMC561072 Store materials for production

Performance Evidence

There must be evidence the candidate has completed the tasks outlined in the elements and performance criteria of this unit, and:

- stored materials for production on at least 1 occasion, including:
  - performing checks and measurements to store materials and maintain quantity, quality, physical and chemical state
  - recognising possible causes of the following routine problems:
    - equipment failure, faults and abnormalities
    - raw material variations
    - procedure errors.

Knowledge Evidence

There must be evidence the candidate has knowledge of:

- principles of safe and efficient storage
- types of materials commonly stored in the work environment and their characteristics
- impact of contamination
- principles of operation of transfer system and equipment
- testing procedures
- manual handling techniques and ergonomics
- safe storage of dangerous goods and hazardous materials
- transport requirements and restrictions for products and materials
- routine problems, their probable causes and relevant corrective actions
- storage hazards and:
  - their possible causes
  - potential consequences
  - risk control procedures.
  -

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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, including:
  - storage equipment and ancillary equipment
  - materials to be stored
  - specifications, procedures and job sheets
- modelling of industry operating conditions, including:
  - routine and non-routine problems.

Assessors must satisfy the NVR/AQTF mandatory competency requirements for assessors.

Links

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MSMPMC302 Operate equipment to blend/mix materials

Modification History

Release 1. New Unit. Supersedes and is equivalent to PMC552002 Operate equipment to blend/mix materials.

Application

This unit describes the skills and knowledge required to select and blend or mix materials using blending or mixing and ancillary equipment.

This unit applies to operators who are required to take responsibility for own outputs and follow established procedures to select the correct type and quantity of materials; set up and operate equipment; and conduct routine maintenance. Operators are also required to work autonomously and apply their own judgement to interpret information; monitor processes; identify and address routine and non-routine problems and control hazards.

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, team leader and supervisor, as appropriate.

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

Operations

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 blend or mix requirements	1.1 Check work schedule and/or job specification and/or job card 1.2 Identify customer requirements and set parameters in accordance

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Elements	**Performance Criteria**
Elements describe the essential outcomes.	*Performance criteria describe the performance needed to demonstrate achievement of the element.*
	with standard procedures 1.3 Select correct type and quantity of materials 1.4 Identify and action all special requirements and specifications 1.5 Identify and rectify any material handling problems in accordance with standard procedures 1.6 Update material records
2. Blend or mix materials	2.1 Set up, start and operate blending or mixing equipment and ancillary equipment as required by specifications 2.2 Prepare and add materials to blender or mixer as required by specification 2.3 Blend or mix materials and check that materials prepared match requirements
3. Monitor and record operation	3.1 Monitor equipment performance in accordance with work instructions and manufacturer specification 3.2 Monitor non-conforming product against customer specifications 3.3 Adjust and control equipment to ensure correct product quality 3.4 Complete final inspection checks 3.5 Complete appropriate records and logs
4. Maintain blending or mixing plant and area	4.1 Keep area and equipment clean and in good order 4.2 Unload and shut down equipment 4.3 Maintain records
5. Rectify routine and non-routine problems and faults	5.1 Identify and rectify faults and equipment failure 5.2 Maintain records and log books of equipment operations 5.3 Identify non-routine problems and report to designated person
6. Control hazards	6.1 Identify hazards in blending or mixing work area 6.2 Assess the risks arising from those hazards 6.3 Implement measures to control those risks

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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. New Unit. Supersedes and is equivalent to PMC552002 Operate equipment to blend/mix materials.

Links

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Assessment Requirements for MSMPMC302 Operate equipment to blend/mix materials

Modification History

Release 1. New Unit. Supersedes and is equivalent to PMC552002 Operate equipment to blend/mix materials.

Performance Evidence

There must be evidence the candidate has completed the tasks outlined in the elements and performance criteria of this unit, and:

- set up and operated the equipment according to procedures to blend or mix materials on at least 1 occasion, including:
  - monitoring the following key variables to ensure product integrity and conformance to specification:
    - process conditions and parameters
    - duration of blend and mix
    - mixing sequence
    - blend and mix tolerance
  - recognising possible causes of the following routine problems:
    - raw material variations
    - process problems
    - mechanical abnormalities
    - electrical or instrument reading variations
    - equipment faults, damage or failure.

Knowledge Evidence

There must be evidence the candidate has knowledge of:

- principles of blending or mixing products
- blending and mixing equipment, including:
  - start-up, operation and shutdown processes
  - impact of equipment operation and limitations on mixing efficiency, effectiveness and quality of product
- vibration monitoring
- impact of:
  - blending or mixing on final product
  - variations in product specification on the blending or mixing process
  - variations in raw materials in relation to quality of product

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- process used to transform the feed materials into the product
- product specifications and tolerances
- routine problems and factors which may affect product quality or production output, their probable causes and relevant corrective actions
- enterprise production schedules
- blending and mixing hazards and:
  - their possible causes
  - potential consequences
  - risk control procedures
  -

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:
  - blending or mixing equipment and ancillary equipment
  - materials to be blended or mixed
  - specifications, procedures and job sheets
- modelling of industry operating conditions, including:
  - routine and non-routine problems.

Assessors must satisfy the NVR/AQTF mandatory competency requirements for assessors.

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MSMPMC303 Operate grinding equipment

Modification History

Release 1. New unit. Supersedes and is equivalent to PMC552003 Operate grinding equipment.

Application

This unit describes the skills and knowledge required to operate grinding and ancillary equipment to reduce the size of raw materials, materials in process, product, scrap and recycled material.

This unit applies to operators who are required to take responsibility for own outputs and follow established procedures to conduct pre-start checks, prepare materials, start and operate equipment, facilitate output changes and distribute ground materials. Operators are also required to work autonomously and apply their own judgement to interpret information; monitor processes; identify and address routine and non-routine problems and control hazards.

This unit applies to an individual working alone or as part of a team or group and in liaison with other shift team members, team leader and supervisor.

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

Operations

Elements and Performance Criteria

Elements	**Performance Criteria**
Elements describe the essential outcomes.	*Performance criteria describe the performance needed to demonstrate achievement of the element.*

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Elements	**Performance Criteria**
Elements describe the essential outcomes.	*Performance criteria describe the performance needed to demonstrate achievement of the element.*
1. Prepare to grind materials	1.1 Check equipment for hazards, danger and isolation tags 1.2 Perform checks to ensure all doors, inspection openings and guards are in position and secure 1.3 Adjust equipment settings to ensure conformance with standard operating procedures (SOPs) 1.4 Notify appropriate personnel of intention to start equipment 1.5 Conduct additional pre-start checks as required in accordance with SOPs 1.6 Check adequate supply of materials is available to meet production requirements
2. Grind materials	2.1 Start equipment in sequence in accordance with SOPs 2.2 Monitor instrument and control panels and adjust as necessary to remain within specified operating parameters 2.3 Make physical inspections of plant and equipment at specified intervals to identify any anomalies 2.4 Maximise product throughput and efficiency to maintain target parameters 2.5 Communicate with appropriate personnel regarding the status of operations 2.6 Employ safe working practices 2.7 Shut down equipment and complete required records
3. Distribute ground product	3.1 Distribute ground materials to their correct silo or storage area 3.2 Monitor silo or storage areas to ensure compliance with enterprise storage quality and quantity requirements
4. Rectify routine problems	4.1 Identify and rectify faults and equipment failure 4.2 Maintain records and log books of equipment operations 4.3 Identify non-routine problems and report to designated person
5.Control hazards	5.1 Identify hazards in the grinding work area 5.2 Assess risks arising from those hazards 5.3 Implement measures to control those risks 5.4 Shut down in an emergency

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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. New unit. Supersedes and is equivalent to PMC552003 Operate grinding equipment.

Links

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Assessment Requirements for MSMPMC303 Operate grinding equipment

Modification History

Release 1. New unit. Supersedes and is equivalent to PMC552003 Operate grinding equipment.

Performance Evidence

There must be evidence the candidate has completed the tasks outlined in the elements and performance criteria of this unit, and:

- set up and operated the grinding equipment according to procedures to grind and distribute materials on at least 1 occasion, including:
  - monitoring the following key variables to ensure product integrity and conformance to specification:
    - process conditions and parameters
    - feed rates
    - temperature
    - moisture
  - recognising possible causes of the following routine problems:
    - raw material variations
    - process problems
    - mechanical abnormalities
    - electrical and instrument reading variations
    - equipment faults, damage or failure.

Knowledge Evidence

There must be evidence the candidate has knowledge of:

- grinding process
- equipment and ancillary equipment, including:
  - start-up, operation and shutdown procedures
  - functions and limitations of the grinding system
  - the potential effects of equipment operation in relation to quality of product and output
- types of materials and additives typically subject to grinding and impact on grinding processes
- the potential effects of variations in raw materials in relation to quality of product and output
- routine problems and factors that impact on product quality or production output, their probable causes and relevant corrective actions

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- enterprise production schedules
- work health and safety (WHS) requirements relevant to work outcome
- grinding hazards that may arise in the job and work environment and:
  - their possible causes
  - potential consequences
  - risk control procedures.

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:
  - grinding equipment and ancillary equipment
  - materials to grind
  - specifications, procedures and job sheets
- modelling of industry operating conditions, including:
  - routine and non-routine problems.

Assessors must satisfy the NVR/AQTF mandatory competency requirements for assessors.

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MSMPMC304 Prepare for production

Modification History

Release 1. New unit. Supersedes and is equivalent to PMC552004 Prepare for production.

Application

This unit describes the skills and knowledge required to prepare for production within the manufactured mineral products industry.

This unit applies to operators who are required to take responsibility for own outputs and follow established procedures to confirm material requirements, assemble materials and perform equipment checks. Operators are also required to work autonomously and apply their own judgement to interpret information; monitor processes; identify and address routine and non-routine problems and control hazards.

This unit applies to an individual working alone or as part of a team or group and in liaison with other shift team members, team leader and supervisor.

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

Operations

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 production plan	1.1 Identify type of product and raw or reclaim materials required 1.2 Calculate time to run and quantities required

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Elements	**Performance Criteria**
Elements describe the essential outcomes.	*Performance criteria describe the performance needed to demonstrate achievement of the element.*
	1.3 Check quality required and any special requirements
2. Assemble raw materials	2.1 Order quantities of materials required 2.2 Receive, sample and test materials 2.3 Visually check that materials are free from contamination and suitable for production 2.4 Report contamination or other non-conformance
3. Check equipment	3.1 Check required program 3.2 Check equipment for operation 3.3 Correct or report maintenance requirements 3.4 Check that equipment has been test run 3.5 Check that equipment is set and adjusted according to production schedule
4. Rectify routine problems	4.1 Identify and rectify faults and equipment failure 4.2 Maintain records and log books of equipment operations 4.3 Identify non-routine problems and report to designated person
5. Identify hazards	5.1 Identify production preparation hazards 5.2 Implement hazard controls according to procedures 5.3 Report safety concerns according to 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.

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Unit Mapping Information

Release 1. New unit. Supersedes and is equivalent to PMC552004 Prepare for production.

Links

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Assessment Requirements for MSMPMC304 Prepare for production

Modification History

Release 1. New unit. Supersedes and is equivalent to PMC552004 Prepare for production.

Performance Evidence

There must be evidence the candidate has completed the tasks outlined in the elements and performance criteria of this unit, and:

- confirmed production plan requirements on at least 1 occasion, including:
  - calculating quantities and checking requirements of materials
  - recognising possible causes of the following routine problems:
    - raw material variations
    - process problems
    - mechanical abnormalities
    - electrical and instrument reading variations.

Knowledge Evidence

There must be evidence the candidate has knowledge of:

- relevant Australian Standards, how to access them and how they relate to role
- basic workings of plant and its interactions
- how own role impacts other roles and processes
- equipment, including:
  - electronic and/or pneumatic equipment being used
  - components and functions
  - start-up, operation and shutdown procedures
  - common requirements for equipment preparation, pre-start checks and test runs
  - common indicators of equipment requiring maintenance
  - the potential effects equipment settings in relation to quality of product or output
- impact and common indicators of material contamination
- testing procedures
- the potential effects of variations in raw materials on quality of product or output
- routine problems and factors that impact on product quality or production output, their probable causes and relevant corrective actions
- enterprise production schedules
- production preparation hazards and:
  - their possible causes

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- potential consequences
- risk control procedures.
-

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:
  - production equipment and ancillary equipment
  - specifications, procedures and job sheets
  - raw materials
- modelling of industry operating conditions, including:
  - routine and non-routine problems.

Assessors must satisfy the NVR/AQTF mandatory competency requirements for assessors.

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MSMPMC305 Heat accelerate the curing of precast concrete

Modification History

Release 1. New unit. Supersedes and is equivalent to PMC552007 Heat accelerate the curing of precast concrete.

Application

This unit describes the skills and knowledge required to operate steam curing and ancillary equipment to accelerate the curing of precast concrete.

This unit applies to operators who are required to take responsibility for own outputs and follow established procedures to prepare, monitor and adjust the equipment and load and discharge moulds or products. Operators are also required to work autonomously and apply their own judgement to interpret information; monitor processes; identify and address routine and non-routine problems and control hazards.

This unit applies to an individual working alone or as part of a team or group and in liaison with other shift team members, team leader and supervisor.

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

Operations

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 the equipment for production	1.1 Conduct equipment pre-start procedures and visual checks 1.2 Set up and configure equipment start-up function in accordance

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Elements	**Performance Criteria**
Elements describe the essential outcomes.	*Performance criteria describe the performance needed to demonstrate achievement of the element.*
	with procedures and/or work instructions 1.3 Ensure appropriate pre-setting period has been observed 1.4 Load mould containing green concrete product onto transfer car and move to steam chamber 1.5 Cover mould as specified 1.6 Close and secure the steam chamber
2. Operate and monitor equipment	2.1 Start up, operate and monitor equipment in accordance with established enterprise procedures and manufacturer specifications 2.2 Monitor operating pressures and temperatures 2.3 Ensure the rate at which the concrete temperature increases is even, and that it doesn't exceed maximum temperature specified 2.4 Adjust and control equipment to ensure correct product quality 2.5 Complete appropriate records and logs
3. Shut down equipment	3.1 Shut down steam and depressurise chamber 3.2 Allow product to cool gradually and evenly 3.3 Open the chamber and discharge cured product 3.4 Complete appropriate records and logs 3.5 Ensure transfer cars are clear of all product and left ready for reuse
4. Prepare equipment for maintenance	4.1 Isolate equipment 4.2 Remove any broken materials safely 4.3 Make sure area is clear and safe for maintenance
5. Rectify routine problems	5.1 Identify and rectify faults and equipment failure 5.2 Maintain records and log books of equipment operations 5.3 Identify non-routine problems and report to designated person
6. Control hazards	6.1 Identify hazards in the curing area 6.2 Assess the risks arising from those hazards 6.3 Implement measures to control those risks 6.4 Shut down equipment in an emergency

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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. New unit. Supersedes and is equivalent to PMC552007 Heat accelerate the curing of precast concrete.

Links

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Assessment Requirements for MSMPMC305 Heat accelerate the curing of precast concrete

Modification History

Release 1. New unit. Supersedes and is equivalent to PMC552007 Heat accelerate the curing of precast concrete.

Performance Evidence

There must be evidence the candidate has completed the tasks outlined in the elements and performance criteria of this unit, and:

- set up, configured and operated the steam curing equipment on at least 1 occasion, including:
  - recognising possible causes of the following routine problems:
    - steam pressure differentials
    - time cycle irregularities
    - raw material variations
    - mechanical abnormalities
    - electrical and instrument reading failure.

Knowledge Evidence

There must be evidence the candidate has knowledge of:

- principles of heat curing process
- equipment and ancillary equipment, including:
  - functions, limitations
  - start-up, operation and shutdown procedures
  - relevant personal protective equipment (PPE)
  - the potential effects of equipment operation in relation to quality of product and output
- composition and nature of finished product
- the potential effects of variations in raw materials in relation to quality of product and output
- routine problems and factors which may affect product quality or production output, their probable causes and relevant corrective actions,
- sequence of isolation procedures and related hazards
- signals and alarms
- enterprise production schedules
- work health and safety (WHS) requirements relevant to work outcome
- heat curing hazards and:
  - their possible causes

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- potential consequences
- risk control procedures.
-

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:
  - heat curing equipment and ancillary equipment
  - raw materials
  - specifications, procedures and job sheets
- modelling of industry operating conditions, including:
  - routine and non-routine problems.

Assessors must satisfy the NVR/AQTF mandatory competency requirements for assessors.

Links

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MSMPMC306 Operate crushing equipment

Modification History

Release 1. New unit. Supersedes and is equivalent to PMC552008 Operate crushing equipment.

Application

This unit describes the skills and knowledge required to operate crushing equipment and ancillary equipment. Crushing is typically applied in the manufacture minerals products industry to raw materials, materials in process, product and scrap and recycled material.

This unit applies to operators who are required to take responsibility for own outputs and follow established procedures to prepare, monitor and adjust the equipment and maintain supply of materials. Operators are also required to work autonomously and apply their own judgement to interpret information; monitor processes; identify and address routine and non-routine problems and control hazards.

This unit applies to an individual working alone or as part of a team or group and in liaison with other shift team members, team leader and supervisor.

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

Operations

Elements and Performance Criteria

Elements	**Performance Criteria**
Elements describe the essential outcomes.	*Performance criteria describe the performance needed to demonstrate achievement of the element.*

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Elements	**Performance Criteria**
Elements describe the essential outcomes.	*Performance criteria describe the performance needed to demonstrate achievement of the element.*
1. Prepare to crush materials	1.1 Check equipment for hazards, danger and isolation tags in accordance with standard operating procedures (SOPs) 1.2 Perform checks to ensure all doors, inspection openings and guards are in position and secure 1.3 Adjust equipment settings to ensure conformance with SOPs 1.4 Notify appropriate personnel of intention to start equipment 1.5 Conduct additional pre-start checks 1.6 Confirm an adequate supply of materials is available to meet production requirements
2. Crush materials	2.1 Start equipment in sequence in accordance with SOPs 2.2 Monitor instrument and control panels and adjust equipment, controls and feed as necessary to remain within specified operating and safety parameters 2.3 Make physical inspections of plant and equipment at specified intervals as required by SOPs 2.4 Maximise product throughput and efficiency to maintain target parameters 2.5 Check screens and screened material 2.6 Communicate with appropriate personnel regarding the status of operations 2.7 Adjust to achieve required output 2.8 Distribute material as required
3. Rectify routine problems	3.1 Identify and rectify faults and equipment failures 3.2 Maintain records and log books of equipment operations 3.3 Identify non-routine problems and report to designated person
4. Control hazards	4.1 Identify hazards in the crushing work area 4.2 Assess the risks arising from those hazards 4.3 Implement measures to control those risks

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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. New unit. Supersedes and is equivalent to PMC552008 Operate crushing equipment.

Links

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Assessment Requirements for MSMPMC306 Operate crushing equipment

Modification History

Release 1. New unit. Supersedes and is equivalent to PMC552008 Operate crushing equipment.

Performance Evidence

There must be evidence the candidate has completed the tasks outlined in the elements and performance criteria of this unit, and:

- set up, configured, started and operated the crushing equipment according to procedures to achieve the required output on at least 1 occasion, including:
  - recognising possible causes of the following routine problems:
    - raw material variations
    - mechanical abnormalities
    - electrical and instrument reading variations.
    -

Knowledge Evidence

There must be evidence the candidate has knowledge of:

- principles of:
  - crushing process
  - control of process
- crushing and ancillary equipment, including:
  - functions, limitations
  - startup, operation and shutdown procedures
  - the potential effects of equipment operations in relation to quality of product and output
- types of materials commonly crushed
- the potential effects of variations in raw materials in relation to quality of product and output
- routine problems and factors which may affect product quality or production output, their probable causes and relevant corrective actions
- sequence of isolation procedures and related hazards
- signals and alarms
- enterprise production schedules
- work health and safety (WHS) requirements relevant to work outcome

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- crushing hazards and:
  - their possible causes
  - potential consequences
  - risk control procedures.

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:
  - crushing equipment and ancillary equipment
  - raw materials
  - specifications, procedures and job sheets
- modelling of industry operating conditions, including:
  - routine and non-routine problems.

Assessors must satisfy the NVR/AQTF mandatory competency requirements for assessors.

Links

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MSMPMC307 Operate a calcining kiln

Modification History

Release 1. New unit. Supersedes and is equivalent to PMC552010 Operate a calcining kiln.

Application

This unit describes the skills and knowledge required to operate a calcining kiln and ancillary equipment. It applies to a large production context where calcining operations are used to make cement, lime, plaster or similar products.

This unit applies to operators who are required to take responsibility for own outputs and follow established procedures to prepare, monitor and adjust the equipment and load raw materials. Operators are also required to work autonomously and apply their own judgement to interpret information; monitor processes; identify and address routine and non-routine problems and control hazards.

This unit does not require the operation of a central control panel.

This unit applies to an individual working alone or as part of a team or group and in liaison with other shift team members, team leader and supervisor.

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

Operations

Elements and Performance Criteria

Elements	**Performance Criteria**
Elements describe the essential outcomes.	*Performance criteria describe the performance needed to demonstrate achievement of the element.*

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Elements	**Performance Criteria**
Elements describe the essential outcomes.	*Performance criteria describe the performance needed to demonstrate achievement of the element.*
1. Prepare the equipment for prouction	1.1 Conduct equipment pre-start procedures and visual checks according to enterprise procedure checklist 1.2 Set up and configure equipment start-up function complying with procedures 1.3 Load raw materials
2. Operate and monitor equipment	2.1 Start up and operate equipment in accordance with work instructions 2.2 Check on the operation of support equipment and on bulk storage silos 2.3 Monitor equipment performance 2.4 Monitor non-conforming product against customer specifications 2.5 Adjust and control equipment to ensure correct product quality 2.6 Complete final inspection checks 2.7 Complete appropriate records and logs
3. Shut down equipment	3.1 Ensure line is clear of all product and left ready for shutdown 3.2 Shut down equipment and complete appropriate records and logs
4. Prepare equipment for maintenance	4.1 Isolate equipment 4.2 Remove any broken materials safely 4.3 Make sure area is clear and safe for maintenance
5. Rectify routine problems	5.1 Identify and rectify faults and equipment failure 5.2 Maintain records and log books 5.3 Identify non-routine problems and report to designated person
6. Control hazards	6.1 Identify hazards in the calcining work area 6.2 Assess the risks arising from those hazards 6.3 Implement measures to control those risks 6.4 Shut down equipment in an emergency

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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. New unit. Supersedes and is equivalent to PMC552010 Operate a calcining kiln.

Links

Companion Volume Implementation Guides are available at VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=d1287d36-dff4-4e9f-ad2c-9d6270054027

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Assessment Requirements for MSMPMC307 Operate a calcining kiln

Modification History

Release 1. New unit. Supersedes and is equivalent to PMC552010 Operate a calcining kiln.

Performance Evidence

There must be evidence the candidate has completed the tasks outlined in the elements and performance criteria of this unit, and:

- set up, configured, started and operated the calcining kiln to achieve required output according to procedures on at least 1 occasion, including:
  - recognising possible causes of the following routine problems:
    - raw material variations
    - mechanical abnormalities
    - electrical and instrument reading variations.
    -

Knowledge Evidence

There must be evidence the candidate has knowledge of:

- principles of calcining process
- calcining tools and equipment, including:
  - functions, limitations
  - start up, operation and shutdown procedures
- composition and nature of raw materials and finished product
- the potential effects of variations in raw materials and process conditions in relation to quality of product and output
- routine problems and factors which may affect product quality or production output, their probable causes and relevant corrective actions
- sequence of isolation procedures and related hazards
- signals and alarms
- enterprise production schedules
- work health and safety (WHS) requirements relevant to work outcome
- calcining hazards and:
  - their possible causes
  - potential consequences
  - risk control procedures.
  -

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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, including:
  - calcining equipment and ancillary equipment
  - raw materials
  - specifications, procedures and job sheets
- modelling of industry operating conditions, including:
  - routine and non-routine problems.

Assessors must satisfy the NVR/AQTF mandatory competency requirements for assessors.

Links

Companion Volume Implementation Guides are available at VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=d1287d36-dff4-4e9f-ad2c-9d6270054027

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MSMPMC308 Operate slip casting equipment

Modification History

Release 1. New unit. Supersedes and is equivalent to PMC552020 Operate slip casting equipment.

Application

This unit describes the skills and knowledge required to operate slip casting equipment typically used to produce clay and ceramic products. It applies to both large production and smaller craft contexts.

This unit applies to operators who are required to take responsibility for own outputs and follow established procedures to prepare moulds and equipment, operate the forming equipment and remove product from mould. Operators are also required to work autonomously and apply their own judgement to interpret information; monitor processes; identify and address routine and non-routine problems and control hazards.

This unit does not apply to drying, firing or finishing operations and does not require the operation of a central control panel.

This unit applies to an individual working alone or as part of a team or group and in liaison with other shift team members, team leader and supervisor.

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

Operations

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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 the forming equipment	1.1 Determine the product formation requirements from the production program 1.2 Check the required moulds are in place 1.3 Set up and prepare the equipment 1.4 Select, pour or connect the required raw materials to the equipment 1.5 Check the equipment is safe to use
2. Operate forming equipmemt	2.1 Operate equipment to produce product to specification 2.2 Remove product from the mould 2.3 Monitor and adjust slip properties 2.4 Transfer product to drying racks, conveyor or trucks 2.5 Record production data
3. Rectify routine problems	3.1 Identify and rectify faults and equipment failure 3.2 Maintain records and log books of equipment operations 3.3 Identify non-routine problems and report to designated person
4. Control hazards	4.1 Identify hazards in the slip casting area 4.2 Assess the risks arising from those hazards 4.3 Implement measures to control those risks

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.

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Unit Mapping Information

Release 1. New Unit. Supersedes and is equivalent to PMC552020 Operate slip casting equipment.

Links

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Assessment Requirements for MSMPMC308 Operate slip casting equipment

Modification History

Release 1. New unit. Supersedes and is equivalent to PMC552020 Operate slip casting equipment.

Performance Evidence

There must be evidence the candidate has completed the tasks outlined in the elements and performance criteria of this unit, and:

- set up, prepared, operated and adjusted equipment to meet product requirements on at least 1 occasion, including:
  - monitoring the following key variables to ensure product integrity and conformance to specification:
    - slip consistency
    - wall thickness
    - casting time
    - mould condition
    - excess slip
  - recognising possible causes of the following routine problems:
    - raw material variations
    - equipment malfunctions
    - mould abnormalities or deterioration
    - process abnormalities.
    -

Knowledge Evidence

There must be evidence the candidate has knowledge of:

- principles of slip casting process
- slip casting tools and equipment, including:
  - functions, limitations
  - principles of operation
  - the potential effects of equipment operation in relation to quality of product
- the potential effects of variations in raw materials in relation to quality of product
- methods for determining wall thickness
- routine problems and factors which may affect product quality or production output, their probable causes and relevant corrective actions
- work health and safety (WHS) requirements relevant to work outcome

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- slip casting hazards that may arise in the job and work environment and:
  - their possible causes
  - potential consequences
  - risk control procedures.
  -

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:
  - slip casting tools and equipment and ancillary equipment
  - raw materials
  - specifications, procedures and job sheets
- modelling of industry operating conditions, including:
  - routine and non-routine problems.

Assessors must satisfy the NVR/AQTF mandatory competency requirements for assessors.

Links

Companion Volume Implementation Guides are available at VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=d1287d36-dff4-4e9f-ad2c-9d6270054027

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MSMPMC309 Finish products after firing

Modification History

Release 1. New unit. Supersedes and is equivalent to PMC552023 Finish products after firing.

Application

This unit describes the skills and knowledge required to finish clay and ceramic products after firing to prepare them for further processing or packaging. It applies to both large production and smaller craft contexts.

This unit applies to operators who are required to take responsibility for own outputs and follow established procedures to inspect, finish and repair products to meet specifications. Operators are also required to work autonomously and apply their own judgement to interpret information; monitor processes; identify and address routine and non-routine problems and control hazards.

This unit does not apply to forming, firing or packaging of products.

This unit applies to an individual working alone or as part of a team or group and in liaison with other shift team members, team leader and supervisor.

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

Operations

Elements and Performance Criteria

Elements	Performance Criteria

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Elements describe the essential outcomes.	*Performance criteria describe the performance needed to demonstrate achievement of the element.*
1. Inspect and sort products	1.1 Grade products to ensure enterprise standards are met 1.2 Mark items with code to indicate grade and/or batch
2. Finish and assemble products	2.1 Apply finishing techniques to produce a properly finished product 2.2 Assemble products to specifications
3. Rectify routine problems	3.1 Identify and rectify faults and equipment failure 3.2 Maintain records and log books of equipment operations 3.3 Identify non-routine problems and report to designated person
4. Rectify routine problems	4.1 Identify and rectify contamination, faults and equipment failure 4.2 Maintain records and log books of equipment operations 4.3 Identify non-routine problems and report to designated person
5. Control hazards	5.1 Identify finishing hazards 5.2 Assess the risks arising from those hazards 5.3 Implement measures to control those risks

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. New unit. Supersedes and is equivalent to PMC552023 Finish products after firing

Links

Companion Volume Implementation Guides are available at VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=d1287d36-dff4-4e9f-ad2c-9d6270054027

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Assessment Requirements for MSMPMC309 Finish products after firing

Modification History

Release 1. New unit. Supersedes and is equivalent to PMC552023 Finish products after firing.

Performance Evidence

There must be evidence the candidate has completed the tasks outlined in the elements and performance criteria of this unit, and:

- inspected, graded, coded, finished and repaired at least 1 batch of products, including:
  - monitoring the following key variables to ensure product integrity and conformance to specification:
    - colour
    - shape
    - assembly
    - structural appearance
    - surface finish
  - recognising possible causes of the following routine problems:
    - raw material variations
    - equipment malfunctions
    - forming abnormalities
    - firing abnormalities
    - finishing abnormalities.
    -

Knowledge Evidence

There must be evidence the candidate has knowledge of:

- common manufacturing blemishes
- purpose of and steps used in common finishing techniques, including:
  - foot polishing
  - hand assembly
  - pin grinding
  - tile splitting
- common finishing equipment, including:
  - functions
  - principles of operation
  - the potential effects of equipment operation in relation to quality of product and output

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- the potential effects of variations in raw materials in relation to quality of product and output
- routine problems and factors which may affect product quality or production output, their probable causes and relevant corrective actions
- finishing hazards and:
  - their possible causes
  - potential consequences
  - risk control procedures.
  -

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:
  - finishing equipment and ancillary equipment
  - products to be finished
  - specifications, procedures and job sheets
- modelling of industry operating conditions, including:
  - routine and non-routine problems.

Assessors must satisfy the NVR/AQTF mandatory competency requirements for assessors.

Links

Companion Volume Implementation Guides are available at VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=d1287d36-dff4-4e9f-ad2c-9d6270054027

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MSMPMC310 Hand mould products

Modification History

Release 1. New unit. Supersedes and is equivalent to PMC552024 Hand mould products.

Application

This unit describes the skills and knowledge required to hand mould products using clay, ceramic, plaster and other materials.

This unit applies to operators who are required to take responsibility for own outputs and follow established procedures to select and prepare the moulds and then mould, remove, finish and store the product. Operators are also required to work autonomously and apply their own judgement to interpret information; monitor processes; identify and address routine and non-routine problems and control hazards.

This unit applies to an individual working alone or as part of a team or group and in liaison with other shift team members, team leader and supervisor.

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

Operations

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. Assemble and prepare the mould or former	1.1 Establish and maintain a safe working environment according to procedures 1.2 Identify and prepare appropriate mould or former

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Elements	**Performance Criteria**
Elements describe the essential outcomes.	*Performance criteria describe the performance needed to demonstrate achievement of the element.*
	1.3 Level and secure the mould or former 1.4 Check that the base is stabilised and correctly mounted as required to facilitate rolling or turning out 1.5 Position inserts or loose pieces 1.6 Apply the correct stripping agent
2. Mould materials	2.1 Prepare the material mix or obtain the material from the batch preparation unit according to specifications 2.2 Provide an adequate supply of material to meet production requirements 2.3 Introduce material to the work piece cavity and compact according to procedures 2.4 Check inserts or loose pieces and secure to avoid movement during moulding 2.5 Roll and strip or turn out the component for finishing
3. Finish the component or product	3.1 Repair defects occurring during the moulding process 3.2 Remove inserts or loose pieces and replace in mould or former 3.3 Prepare the surface of the component for the application of any surface finishes 3.4 Cure or dry the components to specification 3.5 Return mould and/or segments for re-use or storage
4. Inspect and store components	4.1 Inspect component for defects 4.2 Store the component to specifications and procedures
5. Rectify routine problems	5.1 Identify and rectify faults and equipment failure 5.2 Maintain records and log books of equipment operations 5.3 Identify non-routine problems and report to designated person
6. Identify hazards	6.1 Identify hand moulding hazards 6.2 Implement hazard controls according to procedures 6.3 Report safety concerns according to procedures

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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. New unit. Supersedes and is equivalent to PMC552024 Hand mould products.

Links

Companion Volume Implementation Guides are available at VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=d1287d36-dff4-4e9f-ad2c-9d6270054027

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Assessment Requirements for MSMPMC310 Hand mould products

Modification History

Release 1. New unit. Supersedes and is equivalent to PMC552024 Hand mould products.

Performance Evidence

There must be evidence the candidate has completed the tasks outlined in the elements and performance criteria of this unit, and:

- hand moulded and finished at least 1 product or component, including:
  - monitoring the following key variables to ensure product integrity and conformance to specification:
    - supply of materials
    - specification of materials
    - distribution and compaction of materials
    - stability of mould and/or former and inserts
    - sectional profile of product
  - recognising possible causes of the following routine problems:
    - raw material variations
    - equipment malfunctions
    - process abnormalities.
    -

Knowledge Evidence

There must be evidence the candidate has knowledge of:

- content and handling characteristics of the materials being moulded and:
  - typical curing and drying requirements
  - methods of repairing products
  - types of faults that can be repaired
  - types of faults that cannot be repaired
- functions and principles of operation of moulds and formers
- mould or former maintenance and inspection requirements
- the potential effects of variations in raw materials and process conditions in relation to quality of product and output
- routine problems and factors which may affect product quality or production output, their probable causes and relevant corrective actions
- work health and safety (WHS) requirements relevant to work outcome
- hand moulding hazards and:

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- their possible causes
- potential consequences
- risk control procedures.
-

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:
  - moulding, curing and finishing equipment and ancillary equipment
  - materials and products to be moulded and finished
  - specifications, procedures and job sheets
- modelling of industry operating conditions, including:
  - routine and non-routine problems.

Assessors must satisfy the NVR/AQTF mandatory competency requirements for assessors.

Links

Companion Volume Implementation Guides are available at VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=d1287d36-dff4-4e9f-ad2c-9d6270054027

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MSMPMC311 Operate a firing kiln

Modification History

Release 1. New unit. Supersedes and is equivalent to PMC552030 Operate a firing kiln.

Application

This unit describes the skills and knowledge required to operate a firing kiln and ancillary equipment. It applies to both large production and smaller craft contexts.

This unit applies to operators who are required to take responsibility for own outputs and follow established procedures to prepare the firing equipment, load and stack products and monitor and adjust kiln operation. Operators are also required to work autonomously and apply their own judgement to interpret information; monitor processes; identify and address routine and non-routine problems and control hazards.

This unit does not apply to forming or drying prior to firing or finishing or operation of rotary kilns.

This unit applies to an individual working alone or as part of a team or group and in liaison with other shift team members, team leader and supervisor.

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

Operations

Elements and Performance Criteria

Elements	**Performance Criteria**
Elements describe the essential outcomes.	*Performance criteria describe the performance needed to demonstrate achievement of the element.*

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Elements	Performance Criteria
Elements describe the essential outcomes.	*Performance criteria describe the performance needed to demonstrate achievement of the element.*
1. Prepare the firing equipment	1.1 Determine the firing requirements from the production program 1.2 Identify and set up the kiln cars or furniture 1.3 Check kiln refractories are within specifications, including kiln cars, kiln lining and refractories at burners 1.4 Check the firing equipment is safe to use 1.5 Check for fuel feed obstructions and clear burner pathways
2. Load kiln and monitor operation	2.1 Use kiln space efficiently to set or stack products to specification 2.2 Use correct stacking pattern and allow adequate spacing around each item 2.3 Monitor kiln firing to ensure temperature rise and fall rate is to specification 2.4 Monitor and record kiln car movement or kiln contents 2.5 Monitor and adjust kiln heating equipment (elements or burners) and record temperature gradient details 2.6 Monitor the kiln atmosphere 2.7 Monitor for correct operation of kiln 2.8 Move kiln car or kiln contents to the appropriate storage area 2.9 Check and record condition of products leaving the kiln
3. Rectify routine problems	3.1 Identify and rectify faults and equipment failure 3.2 Maintain records and log books of equipment operations 3.3 Identify non-routine problems and report to designated person
4. Control hazards	4.1 Identify hazards in kiln work area 4.2 Assess the risks arising from those hazards 4.3 Implement measures to control those risks

Foundation Skills

This section describes those language, literacy, numeracy and employment skills that are essential to performance.

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Foundation skills essential to performance are explicit in the performance criteria of this unit of competency.

Unit Mapping Information

Release 1. New unit. Supersedes and is equivalent to PMC552030 Operate a firing kiln.

Links

Companion Volume Implementation Guides are available at VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=d1287d36-dff4-4e9f-ad2c-9d6270054027

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Assessment Requirements for MSMPMC311 Operate a firing kiln

Modification History

Release 1. New unit. Supersedes and is equivalent to PMC552030 Operate a firing kiln.

Performance Evidence

There must be evidence the candidate has completed the tasks outlined in the elements and performance criteria of this unit, and:

- set up, configured, started and operated the firing equipment according to procedures on at least 1 occasion, including:
  - recognising possible causes of the following routine problems:
    - raw material variations
    - mechanical abnormalities
    - electrical and instrument reading variations
    - process abnormalities.
    -

Knowledge Evidence

There must be evidence the candidate has knowledge of:

- principles of firing process
- firing tools and equipment, including:
  - functions, limitations
  - principles of operation
- composition and nature of raw materials and finished product
- importance of stacking patterns
- stages and critical transitions during the firing process
- the potential effects of variations in raw materials and process conditions in relation to quality of product and output
- routine problems and factors which may affect product quality or production output, their probable causes and relevant corrective actions
- kiln area hazards and:
  - their possible causes
  - potential consequences
  - risk control procedures.
  -

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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, including:
  - kiln and ancillary equipment
  - products to be fired
  - specifications, procedures and job sheets
- modelling of industry operating conditions, including:
  - routine and non-routine problems.

Assessors must satisfy the NVR/AQTF mandatory competency requirements for assessors.

Links

Companion Volume Implementation Guides are available at VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=d1287d36-dff4-4e9f-ad2c-9d6270054027

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MSMPMC312 Operate glass finishing equipment

Modification History

Release 1. New unit. Supersedes and is equivalent to PMC552048 Operate glass finishing equipment.

Application

This unit describes the skills and knowledge required to operate glass finishing and ancillary equipment. It applies to finishing processes for any glass product in both large production and smaller craft contexts.

This unit applies to operators who are required to take responsibility for own outputs and follow established procedures to set up, operate, monitor and adjust the equipment and undertake changeovers. Operators are also required to work autonomously and apply their own judgement to interpret information; monitor processes; identify and address routine and non-routine problems and control hazards.

This unit applies to an individual working alone or as part of a team or group and in liaison with other shift team members, team leader and supervisor.

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

Operations

Elements and Performance Criteria

Elements	**Performance Criteria**
Elements describe the essential outcomes.	*Performance criteria describe the performance needed to demonstrate achievement of the element.*

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Elements	**Performance Criteria**
Elements describe the essential outcomes.	*Performance criteria describe the performance needed to demonstrate achievement of the element.*
1. Prepare the glass finishing equipment for production	1.1 Set up line and equipment in accordance with job specifications 1.2 Transfer glass to conveyor 1.3 Conduct pre-start-up procedures and visual checks according to enterprise procedure checklist 1.4 Set up and configure finishing equipment and materials to ensure start-up function complies with standard operating procedures 1.5 Load and separate glass
2. Operate and monitor glass finishing equipment	2.1 Identify customer requirements and set minimum parameters 2.2 Start up and operate glass finishing equipment in accordance with established enterprise procedures and work instructions 2.3 Monitor equipment performance 2.4 Monitor product for non-conformance to customer specifications 2.5 Adjust and control equipment and material to ensure correct product quality 2.6 Complete final inspection checks 2.7 Complete appropriate records and logs
3. Shut down equipment	3.1 Ensure line and equipment is clear of all product and left in a safe manner for shutdown 3.2 Shut down equipment and complete appropriate records and logs
4. Rectify routine problems	4.1 Identify and rectify faults and equipment failure 4.2 Maintain records and log books of equipment operations 4.3 Identify non-routine problems and report to designated person
5. Control hazards	5.1 Identify glass finishing hazards 5.2 Assess the risks arising from those hazards 5.3 Implement measures to control those risks 5.4 Shut down equipment in an emergency

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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. New unit. Supersedes and is equivalent to PMC552048 Operate glass finishing equipment

Links

Companion Volume Implementation Guides are available at VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=d1287d36-dff4-4e9f-ad2c-9d6270054027

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Assessment Requirements for MSMPMC312 Operate glass finishing equipment

Modification History

Release 1. New unit. Supersedes and is equivalent to PMC552048 Operate glass finishing equipment

Performance Evidence

There must be evidence the candidate has completed the tasks outlined in the elements and performance criteria of this unit, and:

- operated glass finishing and ancillary equipment to finish at least 1 glass product, including:
  - monitoring the following key variables to ensure product integrity and conformance to specification:
    - ribbon quality
    - dimensions
    - temperature and stress parameters
  - recognising possible causes of the following routine problems:
    - raw material variations
    - equipment, electrical and instrument malfunctions
    - process abnormalities.

Knowledge Evidence

There must be evidence the candidate has knowledge of:

- common types of glass finishing processes and their role
- glass finishing equipment being used, including:
  - functions, limitations
  - start-up, operation and shutdown processes
  - the potential effects of equipment operation in relation to quality of product
- composition and nature of the glass
- the potential effects of variations in raw materials in relation to quality of product
- routine problems and factors which may affect product quality or production output, their probable causes and relevant corrective actions
- work health and safety (WHS) requirements relevant to work outcome
- glass finishing hazards and:
  - their possible causes
  - potential consequences
  - risk control procedures.

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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, including:
  - glass finishing and ancillary equipment
  - materials to be finished
  - specifications, procedures and job sheets
- modelling of industry operating conditions, including:
  - routine and non-routine problems.

Assessors must satisfy the NVR/AQTF mandatory competency requirements for assessors.

Links

Companion Volume Implementation Guides are available at VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=d1287d36-dff4-4e9f-ad2c-9d6270054027

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MSMPMC313 Schedule, cut and bend reinforcement

Modification History

Release 1. New unit. Supersedes and is equivalent to PMC552050 Schedule, cut and bend reinforcement

Application

This unit describes the skills and knowledge required to schedule, cut and bend reinforcement.

This unit applies to operators who are required to take responsibility for own outputs and follow established procedures to interpret plans, prepare the reinforcement and organise quality testing. Operators are also required to work autonomously and apply their own judgement to interpret information; monitor processes; identify and address routine and non-routine problems and control hazards.

This unit applies to an individual working alone or as part of a team or group and in liaison with other shift team members, team leader and supervisor.

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

Operations

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. Interpret plan, steel drawing and	1.1 Identify steel sizes and types required according to plan and specifications

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Elements	Performance Criteria
Elements describe the essential outcomes.	*Performance criteria describe the performance needed to demonstrate achievement of the element.*
specifications	1.2 Interpret steel dimensions 1.3 Check cover to steel is adequate and report if not 1.4 Determine steel lengths allowing for bends and bar thickness 1.5 Follow instructions and requirements for cage assembly
2. Prepare materials and equipment	2.1 Read job specification and determine equipment and material requirements 2.2 Check availability of bars and mesh 2.3 Set up templates and equipment in compliance with job specifications and work instructions 2.4 Cut, bend and tag reinforcement
3. Organise quality testing of reinforcement	3.1 Arrange for samples of work in progress to be verification tested 3.2 Check reinforcement using go and no-go gauges, dimension tolerance, cosmetics and level of standards specification 3.3 Implement test requirements in accordance with standard operating procedures (SOPs) and any legislative or regulatory requirements
4. Rectify routine problems	4.1 Identify and rectify faults and equipment failure 4.2 Maintain records and log books of equipment operations 4.3 Identify non-routine problems and report to designated person
5. Control hazards	5.1 Identify reinforcement hazards 5.2 Assess the risks arising from those hazards 5.3 Implement measures to control those risks

Foundation Skills

This section describes those language, literacy, numeracy and employment skills that are essential to performance.

Numeracy skills to:

- do basic arithmetical manipulations, including additions, subtractions, divisions, fractions and percentages

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- make calculations from ‘steel drawings’
- measure reinforcement to specification

Other foundation skills essential to performance are explicit in the performance criteria of this unit.

Unit Mapping Information

Release 1. New unit. Supersedes and is equivalent to PMC552050 Schedule, cut and bend reinforcement

Links

Companion Volume Implementation Guides are available at VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=d1287d36-dff4-4e9f-ad2c-9d6270054027

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Assessment Requirements for MSMPMC313 Schedule, cut and bend reinforcement

Modification History

Release 1. New unit. Supersedes and is equivalent to PMC552050 Schedule, cut and bend reinforcement

Performance Evidence

There must be evidence the candidate has completed the tasks outlined in the elements and performance criteria of this unit, and:

- scheduled, cut, bent and tagged reinforcement on at least 1 occasion, including:
  - monitoring the following key variables to ensure product integrity and conformance to specification:
    - shape
    - dimensions
    - dimensional tolerance
    - steel coverage
  - recognising possible causes of the following routine problems:
    - raw material variations
    - equipment malfunctions
    - design problems
    - fabrication errors.
    -

Knowledge Evidence

There must be evidence the candidate has knowledge of:

- common types of reinforcement
- legislative or regulatory requirements relevant to job role
- automatic and semi-automatic reinforcement and ancillary equipment, including:
  - functions, limitations
  - principles of operation
  - the potential effects of equipment operation in relation to quality of product
- validation of test certificates
- reinforcement design drawings, schedules and tags
- the potential effects of variations in raw materials in relation to quality of product
- quality testing requirements
- routine problems, their probable causes and relevant corrective actions
- reinforcement hazards and:

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- their possible causes
- potential consequences
- risk control procedures.

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:
  - reinforcement equipment and ancillary equipment
  - plans, specifications, procedures and job sheets
- modelling of industry operating conditions, including:
  - routine and non-routine problems.

Assessors must satisfy the NVR/AQTF mandatory competency requirements for assessors.

Links

Companion Volume Implementation Guides are available at VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=d1287d36-dff4-4e9f-ad2c-9d6270054027

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MSMPMC314 Finish green concrete products

Modification History

Release 1. New unit. Supersedes and is equivalent to PMC552051 Finish green concrete products

Application

This unit describes the skills and knowledge required to finish green concrete products. It applies to all finishes applied to concrete before curing but after manufacturing operations up to final vibration and/or screeding the top surface flat.

This unit applies to operators who are required to take responsibility for own outputs and follow established procedures to prepare the equipment and materials, interpret formulae and mixing specifications and finish the surface. Operators are also required to work autonomously and apply their own judgement to interpret information; monitor processes; identify and address routine and non-routine problems and control hazards.

This unit applies to an individual working alone or as part of a team or group and in liaison with other shift team members, team leader and supervisor.

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

Operations

Elements and Performance Criteria

Elements	**Performance Criteria**
Elements describe the essential outcomes.	*Performance criteria describe the performance needed to demonstrate achievement of the element.*

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Elements	Performance Criteria
Elements describe the essential outcomes.	*Performance criteria describe the performance needed to demonstrate achievement of the element.*
1. Prepare to surface finish green concrete	1.1 Check drawings and work orders for finish requirements 1.2 Check product against relevant standards and specification 1.3 Check required condition and set state of concrete 1.4 Prepare and mix surface finish 1.5 Prepare finish equipment
2. Finish surface green concrete as required	2.1 Apply finish or spray surface 2.2 Inspect surface after initial finishing and patch or rework 2.3 Continue finishing and monitor finish 2.4 Inspect final finish after appropriate time and make any changes required to meet specification 2.5 Dispose of waste to requirements
3. Rectify routine problems	3.1 Identify and rectify faults and equipment failure 3.2 Maintain records and log books of equipment operations 3.3 Identify non-routine problems and report to designated person
4. Control hazards	4.1 Identify finishing hazards for green concrete products 4.2 Assess the risks arising from those hazards 4.3 Implement measures to control those risks

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. New unit. Supersedes and is equivalent to PMC552051 Finish green concrete products

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Assessment Requirements for MSMPMC314 Finish green concrete products

Modification History

Release 1. New unit. Supersedes and is equivalent to PMC552051 Finish green concrete products

Performance Evidence

There must be evidence the candidate has completed the tasks outlined in the elements and performance criteria of this unit, and:

- finished green concrete products and applied finish to meet specifications, including 1 or more of the following:
  - fine wood float
  - rough wood float
  - hand steel float
  - broomed
  - helicopter steel float
  - raked finish
- sprayed concrete to make exposed aggregate
- applied sealers and curing compounds to wet concrete
- recognising possible causes of the following routine problems:
  - raw material variations
  - product and surface abnormalities
  - process errors.
  -

Knowledge Evidence

There must be evidence the candidate has knowledge of:

- relevant Australian Standards
- principles of:
  - concrete mixing
  - veneer adhesion
  - concrete finishing
- common finishing methods, including:
  - fine wood float
  - rough wood float
  - hand steel float

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  - broomed
  - helicopter steel float
  - spraying
  - raked finish
- the potential effects of variations in raw materials and equipment operation and processes in relation to quality of product
- problems and factors which may affect product quality or production output, their probable causes and relevant corrective actions
- green concrete product finishing hazards and:
  - their possible causes
  - potential consequences
  - risk control procedures.
  -

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:
  - green concrete product finishing equipment and ancillary equipment
  - materials to be finished
  - specifications, procedures and job sheets
- modelling of industry operating conditions, including:
  - routine and non-routine problems.

Assessors must satisfy the NVR/AQTF mandatory competency requirements for assessors.

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MSMPMC315 Cast moulded concrete products

Modification History

Release 1. New unit. Supersedes and is equivalent to PMC552052 Cast moulded concrete products

Application

This unit describes the skills and knowledge required to cast moulded concrete products. It applies to timber, glass fibre, metal casing, latex rubber, plaster and other moulds.

This unit applies to operators who are required to take responsibility for own outputs and follow established procedures to prepare moulds; place reinforcement and fittings (such as pipes and tubing, hooks and cones) and set up and operate equipment to cast and vibrate concrete. Operators are also required to work autonomously and apply their own judgement to interpret information; monitor processes; identify and address routine and non-routine problems and control hazards.

This unit applies to an individual working alone or as part of a team or group and in liaison with other shift team members, team leader and supervisor.

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

Operations

Elements and Performance Criteria

Elements	**Performance Criteria**
Elements describe the essential outcomes.	*Performance criteria describe the performance needed to demonstrate achievement of the element.*

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Elements	**Performance Criteria**
Elements describe the essential outcomes.	*Performance criteria describe the performance needed to demonstrate achievement of the element.*
1. Set up mould and accessories	1.1 Fit reinforcement and fittings according to work instructions 1.2 Pre-stress reinforcement 1.3 Strap pipes and accessories down 1.4 Inspect mould assembly is to specification 1.5 Check mould for defects and correct
2. Prepare equipment for the mix	2.1 Set up tools required 2.2 Set up vibrators to standard 2.3 Check concrete dispenser is in action 2.4 Check mix is to standard consistency
3. Cast concrete into moulds	3.1 Check casting schedule, job specification and drawings 3.2 Clean, seal and oil moulds 3.3 Pour mix into mould at correct speed 3.4 Vibrate according to standard operating procedures (SOPs) 3.5 Finish and cover mould 3.6 Clean mould and work site
4. Rectify routine problems	4.1 Identify and rectify faults and equipment failure 4.2 Maintain records and log books of equipment operations 4.3 Identify non-routine problems and report to designated person
5. Control hazards	5.1 Identify casting hazards 5.2 Assess the risks arising from those hazards 5.3 Implement measures to control those risks

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.

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Unit Mapping Information

Release 1. New unit. Supersedes and is equivalent to PMC552052 Cast moulded concrete products

Links

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Assessment Requirements for MSMPMC315 Cast moulded concrete products

Modification History

Release 1. New unit. Supersedes and is equivalent to PMC552052 Cast moulded concrete products

Performance Evidence

There must be evidence the candidate has completed the tasks outlined in the elements and performance criteria of this unit, and:

- cast moulded concrete products on at least 1 occasion, including:
  - selecting and preparing moulds, accessories, equipment and materials
  - monitoring the following key variables to ensure product integrity and conformance to specification:
    - mould condition
    - amount and grade of concrete
    - consistency of mix
    - placement of reinforcing and accessories
    - placement and stressing of strands
    - compaction and vibration
  - recognising possible causes of the following routine problems:
    - raw material and mix variations
    - mould anomalies
    - casting and operating conditions
    - process errors
    -

Knowledge Evidence

There must be evidence the candidate has knowledge of:

- common types of moulds and their application
- causes and impact of mould wear
- problems resulting from mould leakage
- importance of vibration on compaction
- role of reinforcement, types of reinforcement and significance of concrete cover
- the potential effects of variations in raw materials and equipment operation and processes in relation to quality of product

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- routine problems and factors which may affect product quality or production output, their probable causes and relevant corrective actions
- hazards from pre-stressed reinforcement
- casting hazards and:
  - their possible causes
  - potential consequences
  - risk control procedures.
  -

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:
  - casting equipment and ancillary equipment
  - materials to be cast
  - specifications, procedures and job sheets
- modelling of industry operating conditions, including:
  - routine and non-routine problems.

Assessors must satisfy the NVR/AQTF mandatory competency requirements for assessors.

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MSMPMC316 Finish cured concrete products

Modification History

Release 1. New unit. Supersedes and is equivalent to PMC552053 Finish cured concrete products

Application

This unit describes the skills and knowledge required to finish cured concrete products. It applies to all finishes applied to concrete before curing (including exposed aggregate) but after manufacturing operations up to final vibration and/or screeding the top surface flat.

This unit applies to operators who are required to take responsibility for own outputs and follow established procedures to check and prepare surfaces, apply finishing techniques and clean and seal surfaces. Operators are also required to work autonomously and apply their own judgement to interpret information; monitor processes; identify and address routine and non-routine problems and control hazards.

This unit applies to an individual working alone or as part of a team or group and in liaison with other shift team members, team leader and supervisor.

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

Operations

Elements and Performance Criteria

Elements	**Performance Criteria**
Elements describe the essential outcomes.	*Performance criteria describe the performance needed to demonstrate achievement of the element.*

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Elements	**Performance Criteria**
Elements describe the essential outcomes.	*Performance criteria describe the performance needed to demonstrate achievement of the element.*
1. Check product prior to finishing	1.1 Check product identity and finish required according to specifications 1.2 Check product has been cured and is ready for finishing 1.3 Check type and size of aggregate and any special characteristics of concrete mix 1.4 Check for handling and other damage and report 1.5 Set up finishing process
2. Finish surface	2.1 Perform initial finishing over product surface 2.2 Check for consistency, flatness and that other requirements have been met 2.3 Report products which are outside specification or which may not be able to be correctly finished 2.4 Monitor progress of finishing and readjust 2.5 Continue finishing until surface meets specification
3. Check and seal coat	3.1 Clean finished surface 3.2 Apply sealer coat 3.3 Monitor and adjust sealer coating thickness against relevant specification 3.4 Lift unit into store in accordance with work health and safety (WHS) requirements and support on protective pads
4. Rectify routine problems	4.1 Identify and rectify faults and equipment failure 4.2 Maintain records and log books of equipment operations 4.3 Identify non-routine problems and report to designated person
5. Control hazards	5.1 Identify finishing hazards 5.2 Assess the risks arising from those hazards 5.3 Implement measures to control those risks

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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. New unit. Supersedes and is equivalent to PMC552053 Finish cured concrete products

Links

Companion Volume Implementation Guides are available at VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=d1287d36-dff4-4e9f-ad2c-9d6270054027

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Assessment Requirements for MSMPMC316 Finish cured concrete products

Modification History

Release 1. New unit. Supersedes and is equivalent to PMC552053 Finish cured concrete products

Performance Evidence

There must be evidence the candidate has completed the tasks outlined in the elements and performance criteria of this unit, and:

- applied finish to meet specifications, including 1 or more of:
  - blasting
  - honing
  - polishing
  - etching
  - sealing
  - painting
  - grit and sand blasting
  - graffiti treatments
  - sprayed finishes on cured concrete
  - acid etching
- recognised possible causes of the following routine problems:
  - raw material variations
  - product and surface abnormalities
  - equipment abnormalities
  - process errors.
  -

Knowledge Evidence

There must be evidence the candidate has knowledge of:

- principles of concrete product formation and finishing
- common finishing methods, including:
  - blasting
  - honing
  - polishing
  - etching

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  - sealing
  - painting
  - grit and sand blasting
  - graffiti treatments
  - sprayed finishes on cured concrete
  - acid etching
- the potential effects of variations in raw materials, equipment operation and processes in relation to quality of product
- routine problems and factors which may affect product quality or production output, their probable causes and relevant corrective actions
- manual handling and work health and safety (WHS) requirements relevant to work outcome
- finishing hazards:
  - their possible causes
  - potential consequences
  - risk control procedures.

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:
  - finishing equipment and ancillary equipment
  - products to be finished
  - specifications, procedures and job sheets
- modelling of industry operating conditions, including:
  - routine and non-routine problems.

Assessors must satisfy the NVR/AQTF mandatory competency requirements for assessors.

Links

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MSMPMC317 Conduct benching operations

Modification History

Release 1. New unit. Supersedes and is equivalent to PMC552055 Conduct benching operations

Application

This unit describes the skills and knowledge required to conduct benching operations as typically used to produce special-purpose concrete, clay or refractory components.

This unit applies to operators who are required to take responsibility for own outputs and follow established procedures to assemble and prepare moulds; place reinforcement and fittings (such as plugs, blinds and inserts) and cast and finish the work piece. Operators are also required to work autonomously and apply their own judgement to interpret information; monitor processes; identify and address routine and non-routine problems and control hazards.

This unit applies to an individual working alone or as part of a team or group and in liaison with other shift team members, team leader and supervisor.

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

Operations

Elements and Performance Criteria

Elements	**Performance Criteria**
Elements describe the essential outcomes.	*Performance criteria describe the performance needed to demonstrate achievement of the element.*

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Elements	**Performance Criteria**
Elements describe the essential outcomes.	*Performance criteria describe the performance needed to demonstrate achievement of the element.*
1. Determine the shape of the work piece	1.1 Check the specification, drawing or client instructions 1.2 Calculate the angle of decline to be applied to the work piece 1.3 Determine the number of access and egress points to facilitate movement of liquids through the work piece 1.4 Identify and obtain components, reinforcing and/or other fitments as required by the specification
2. Assemble and prepare the work piece	2.1 Establish and maintain a safe working environment which meets work health and safety (WHS) and enterprise requirements 2.2 Identify and prepare the appropriate liner or cover 2.3 Secure and level in accordance with procedures and work instructions 2.4 Check that the base is stabilised and correctly mounted as required to facilitate lifting or moving 2.5 Position components, reinforcing and/or other fitments as required by the specification
3. Rough cast the work piece	3.1 Prepare the concrete mix or obtain the material from the batch preparation unit 3.2 Ensure an adequate supply of material is available to meet production requirements 3.3 Free form the concrete inside the work piece to meet the rough dimensions required by the specification 3.4 Ensure that components, reinforcing and/or other fitments do not move during rough casting
4. Finish the work piece	4.1 Prepare a finishing mixture for application to the work piece 4.2 Apply the finishing coating, trowelling and sleeking the surface to specification 4.3 Check the work piece cures 4.4 Remove any separators, non-permanent inserts, plugs or blinds 4.5 Release work piece safely 4.6 Return mould segments for reuse or storage
5. Inspect and store products	5.1 Inspect work piece for defects 5.2 Make allowable repairs

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Elements	Performance Criteria
Elements describe the essential outcomes.	*Performance criteria describe the performance needed to demonstrate achievement of the element.*
	5.3 Identify and mark work piece with appropriate brand or identification number 5.4 Apply appropriate surface coatings or coverings as required by the specification 5.5 Move work piece and store
6. Rectify routine problems	6.1 Identify and rectify faults and equipment failure 6.2 Maintain records and log books of equipment operations 6.3 Identify non-routine problems and report to designated person
7. Control hazards	7.1 Identify benching hazards 7.2 Assess the risks arising from those hazards 7.3 Implement measures to control those risks

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. New unit. Supersedes and is equivalent to PMC552055 Conduct benching operations

Links

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Assessment Requirements for MSMPMC317 Conduct benching operations

Modification History

Release 1. New unit. Supersedes and is equivalent to PMC552055 Conduct benching operations

Performance Evidence

There must be evidence the candidate has completed the tasks outlined in the elements and performance criteria of this unit, and:

- conducted benching operations to produce at least 1 work piece, including:
  - monitoring the following key variables to ensure product integrity and conformance to specification:
    - shape
    - dimensions
    - mounting and stability of base
    - placement and stability of reinforcing and fittings
    - supply of casting and finishing materials
  - recognising possible causes of the following routine problems:
    - raw material and mix variations
    - mould anomalies
    - casting and operating conditions
    - process errors.
    -

Knowledge Evidence

There must be evidence the candidate has knowledge of:

- moulds and their application
- causes and impact of mould wear
- types of faults that can be repaired and related repair methods
- role of reinforcement, types of reinforcement and significance of concrete cover
- the potential effects of variations in raw materials and equipment operation and processes in relation to quality of product
- routine problems and factors which may affect product quality or production output, their probable causes and relevant corrective actions
- work health and safety (WHS) requirements relevant to work outcome
- benching hazards:

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- their possible causes
- potential consequences
- risk control procedures.
-

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:
  - benching moulds, fittings, materials, equipment and ancillary equipment
  - specifications, procedures and job sheets
- modelling of industry operating conditions, including:
  - routine and non-routine problems.

Assessors must satisfy the NVR/AQTF mandatory competency requirements for assessors.

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MSMPMC318 Assemble, fabricate and place reinforcement

Modification History

Release 1. New unit. Supersedes and is equivalent to PMC552056 Assemble, fabricate and place reinforcement

Application

This unit describes the skills and knowledge required to assemble, fabricate and place reinforcement.

This unit applies to operators who are required to take responsibility for own outputs and follow established procedures to interpret plans (steel drawings), fabricate the reinforcement from pre-cut and bent steel and place and secure reinforcement. Operators are also required to work autonomously and apply their own judgement to interpret information; monitor processes; identify and address routine and non-routine problems and control hazards.

This unit applies to an individual working alone or as part of a team or group and in liaison with other shift team members, team leader and supervisor.

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

Operations

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 fabrication	1.1 Check quantities, type, size and shape of reinforcement supplied

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Elements	Performance Criteria
Elements describe the essential outcomes.	*Performance criteria describe the performance needed to demonstrate achievement of the element.*
	against drawings, tags and schedules 1.2 Prepare jigs and/or other assembly aids
2. Assemble and fabricate reinforcement	2.1 Assemble reinforcement using appropriate fixing method 2.2 Check final dimensions are to specification 2.3 Insert lifting devices, lugs, fittings, bar chairs and nibs according to standard operating procedures (SOPs) 2.4 Check minimum lap sizes are observed 2.5 Complete cage to enable lifting if assembled outside the mould 2.6 Report any non-compliance 2.7 Follow all work health and safety (WHS) procedures and work instructions
3. Rectify routine problems	3.1 Identify and rectify faults and equipment failure 3.2 Maintain records and log books of equipment operations 3.3 Identify non-routine problems and report to designated person
4. Control hazards	4.1 Identify reinforcement work hazards 4.2 Assess the risks arising from those hazards 4.3 Implement measures to control those risks

Foundation Skills

This section describes those language, literacy, numeracy and employment skills that are essential to performance.

Numeracy skills to:

- do basic arithmetical manipulations, including additions, subtractions, divisions, fractions and percentages
- make calculations from steel drawings
- measure reinforcement to specification

Other foundation skills essential to performance are explicit in the performance criteria of this unit of competency.

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Unit Mapping Information

Release 1. New unit. Supersedes and is equivalent to PMC552056 Assemble, fabricate and place reinforcement

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Assessment Requirements for MSMPMC318 Assemble, fabricate and place reinforcement

Modification History

Release 1. New unit. Supersedes and is equivalent to PMC552056 Assemble, fabricate and place reinforcement

Performance Evidence

There must be evidence the candidate has completed the tasks outlined in the elements and performance criteria of this unit, and:

- assembled, fabricated and fixed reinforcement on at least 1 occasion, including:
  - monitoring the following key variables to ensure product integrity and conformance to specification:
    - shape
    - dimensions
    - dimensional tolerance
    - grade of steel
    - placement of fittings and lifting lugs
    - steel coverage
    - security and stability of fixing reinforcement in place
    - minimum lap sizes
  - recognising possible causes of the following routine problems:
    - raw material variations
    - equipment malfunctions
    - design problems
    - fabrication errors.

Knowledge Evidence

There must be evidence the candidate has knowledge of:

- common types and application of reinforcement
- reinforcement equipment, including:
  - functions, limitations
  - principles of operation
  - the potential effects of equipment operation in relation to quality of product
- predicting final shape and dimension based on bar size and type and bend radius
- design factors
- fabrication methods

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- validation of test certificates
- reinforcement design drawings
- reinforcement tags
- the potential effects of variations in raw materials in relation to quality of product
- routine problems and factors which may affect product quality or production output, their probable causes and relevant corrective actions
- work health and safety (WHS) requirements relevant to work outcome
- hazards when working with reinforcements and:
  - their possible causes
  - potential consequences
  - risk control procedures.
  -

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:
  - reinforcement equipment and ancillary equipment
  - specifications, procedures and job sheets
- modelling of industry operating conditions, including:
  - routine and non-routine problems.

Assessors must satisfy the NVR/AQTF mandatory competency requirements for assessors.

Links

Companion Volume Implementation Guides are available at VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=d1287d36-dff4-4e9f-ad2c-9d6270054027

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MSMPMC319 Finish casting operation

Modification History

Release 1. New unit. Supersedes and is equivalent to PMC552057 Finish casting operation

Application

This unit describes the skills and knowledge required to finish casting operations by fitting reinforcement and accessories to products before curing.

This unit applies to operators who are required to take responsibility for own outputs and follow established procedures to ensure the mould is stable, position reinforcement and fittings and top up and cover mould. Operators are also required to work autonomously and apply their own judgement to interpret information; monitor processes; identify and address routine and non-routine problems and control hazards.

This unit applies to an individual working alone or as part of a team or group and in liaison with other shift team members, team leader and supervisor.

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

Operations

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. Adjust and level mould and accessories	1.1 Ensure position of mould base is level and stabilised according to standard operating procedures (SOPs)

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Elements	Performance Criteria
Elements describe the essential outcomes.	*Performance criteria describe the performance needed to demonstrate achievement of the element.*
	1.2 Adjust level of pipes and other accessories already fitted
2. Position and fit reinforcement and accessories	2.1 Place reinforcement in green concrete 2.2 Place fittings and accessories in concrete to specification
3. Top up mould and finish	3.1 Top up and cover mould according to work instructions 3.2 Finish and patch product to specification 3.3 Clean mould and work site
4. Rectify routine problems	4.1 Identify and rectify faults and equipment failure 4.2 Maintain records and log books of equipment operations 4.3 Identify non-routine problems and report to designated person
5. Control hazards	5.1 Identify finishing hazards 5.2 Assess the risks arising from those hazards 5.3 Implement measures to control those risks

Foundation Skills

This section describes those language, literacy, numeracy and employment skills that are Foundation skills essential to performance are explicit in the performance criteria of this unit of competency.

Unit Mapping Information

Release 1. New unit. Supersedes and is equivalent to PMC552057 Finish casting operation

Links

Companion Volume Implementation Guides are available at VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=d1287d36-dff4-4e9f-ad2c-9d6270054027

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Assessment Requirements for MSMPMC319 Finish casting operation

Modification History

Release 1. New unit. Supersedes and is equivalent to PMC552057 Finish casting operation

Performance Evidence

There must be evidence the candidate has completed the tasks outlined in the elements and performance criteria of this unit, and:

- finished casting operations for at least 1 product, including:
  - monitoring the following key variables to ensure product integrity and conformance to specification:
    - types of reinforcement and fittings
    - placement and securing of reinforcement and fittings
    - amount and distribution of concrete in mould
  - applied finishing and veneering techniques, including at least 1 of the following:
    - screeding
    - floating
    - helicopter floating
    - brushing
  - recognising possible causes of the following routine problems:
    - variations in materials
    - wrong materials
    - mould anomalies
    - process errors.
    -

Knowledge Evidence

There must be evidence the candidate has knowledge of:

- topping up and finishing process
- common veneering techniques, including:
  - screeding
  - floating
  - helicopter floating
  - brushing
- principles of concrete mixing
- hazards from pre-stressed reinforcement

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- role of reinforcement, types of reinforcement and significance of concrete cover
- the potential effects of variations in raw materials and equipment operation and processes in relation to quality of product
- routine problems and factors which may affect product quality or production output, their probable causes and relevant corrective actions
- finishing hazards and:
  - their possible causes
  - potential consequences
  - risk control procedures.
  -

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:
  - reinforcement, fittings, accessories and moulds
  - finishing or veneering tools and materials
  - specifications, procedures and job sheets
- modelling of industry operating conditions, including:
  - routine and non-routine problems.

Assessors must satisfy the NVR/AQTF mandatory competency requirements for assessors.

Links

Companion Volume Implementation Guides are available at VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=d1287d36-dff4-4e9f-ad2c-9d6270054027

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MSMPMC320 Demould concrete products

Modification History

Release 1. New unit. Supersedes and is equivalent to PMC552058 Demould concrete products

Application

This unit describes the skills and knowledge required to demould concrete products and maintain moulds. It applies to timber, glass fibre, metal casing, latex rubber, plaster and other moulds.

This unit applies to operators who are required to take responsibility for own outputs and follow established procedures to dismantle moulds; inspect moulds and products for faults; clean and reassemble moulds and maintain mould part stocks. Operators are also required to work autonomously and apply their own judgement to interpret information; monitor processes; identify and address routine and non-routine problems and control hazards.

This unit applies to an individual working alone or as part of a team or group and in liaison with other shift team members, team leader and supervisor.

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

Operational/technical

Elements and Performance Criteria

Elements	**Performance Criteria**
Elements describe the essential *outcomes.*	*Performance criteria describe the performance needed to demonstrate achievement of the element.*

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Elements	**Performance Criteria**
Elements describe the essential *outcomes.*	*Performance criteria describe the performance needed to demonstrate achievement of the element.*
1. Dismantle, clean and inspect mould	1.1 Remove nuts and bolts as required 1.2 Remove mould 1.3 Identify product faults from visual inspection 1.4 Identify mould faults from visual inspection 1.5 Dismantle mould according to work instructions 1.6 Check condition of all mould parts 1.7 Clean mould parts
2. Reassemble mould	2.1 Identify product to be made from specifications 2.2 Interpret mould drawings or plans 2.3 Select and check required mould parts 2.4 Use correct mould setup jig 2.5 Assemble mould 2.6 Place and fix reinforcement cage 2.7 Check cover is adequate and fix or report 2.8 Check mould dimensions and tolerance 2.9 Check mould for joint leakage and correct
3. Lubricate mould	3.1 Lubricate mould to standard 3.2 Store mould in correct location
4. Maintain mould part stock control	4.1 Check stocks of spare parts 4.2 Advise supervisor of stock required, parts used and date of completed mould
5. Rectify routine problems	5.1 Identify and rectify faults and equipment failure 5.2 Maintain records and log books of equipment operations 5.3 Identify non-routine problems and report to designated person
6. Control hazards	6.1 Identify demoulding hazards 6.2 Assess the risks arising from those hazards 6.3 Implement measures to control those risks

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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. New unit. Supersedes and is equivalent to PMC552058 Demould concrete products

Links

Companion Volume Implementation Guides are available at VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=d1287d36-dff4-4e9f-ad2c-9d6270054027

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Assessment Requirements for MSMPMC320 Demould concrete products

Modification History

Release 1. New unit. Supersedes and is equivalent to PMC552058 Demould concrete products

Performance Evidence

There must be evidence the candidate has completed the tasks outlined in the elements and performance criteria of this unit, and:

- demoulded at least 1 concrete product, including:
- monitoring the following key variables to ensure product integrity and conformance to specification:
  - condition of mould parts
  - mould part stock levels
  - placement of reinforcing and accessories
- recognising possible causes of the following routine problems:
  - raw material and mix variations
  - mould anomalies
  - casting and operating conditions
  - process errors.
  -

Knowledge Evidence

There must be evidence the candidate has knowledge of:

- common types of moulds, mould parts and their role
- causes and impact of mould wear
- indicators of common product and mould faults
- function of mould lubricants
- role of reinforcement, types of reinforcement and significance of concrete cover
- the potential effects of variations in raw materials and equipment operation in relation to quality of product
- routine problems and factors which may affect product quality or production output, their probable causes and relevant corrective actions
- hazards from pre-stressed reinforcement
- demoulding hazards and:
  - their possible causes
  - potential consequences
  - risk control procedures.

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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, including:
  - concrete products and moulds
  - specifications, procedures and job sheets
- modelling of industry operating conditions, including:
  - routine and non-routine problems.

Assessors must satisfy the NVR/AQTF mandatory competency requirements for assessors.

Links

Companion Volume Implementation Guides are available at VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=d1287d36-dff4-4e9f-ad2c-9d6270054027

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MSMPMC321 Batch mix concrete

Modification History

Release 1. New unit. Supersedes and is equivalent to PMC552060 Batch mix concrete

Application

This unit describes the skills and knowledge required to batch mix concrete. It applies to concrete batching plants in the pre-mixed and manufactured concrete products sectors. It applies to wet and dry batching.

This unit applies to operators who are required to take responsibility for own outputs and follow established procedures to select, batch and load materials; operate and adjust batching and/or mixing equipment and discharge batched concrete. Operators are also required to work autonomously and apply their own judgement to interpret information; monitor processes; identify and address routine and non-routine problems and control hazards.

This unit applies to an individual working alone or as part of a team or group and in liaison with other shift team members, team leader and supervisor.

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

Operations

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 mix	1.1 Identify job requirements, standards and specifications

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Elements	**Performance Criteria**
Elements describe the essential outcomes.	*Performance criteria describe the performance needed to demonstrate achievement of the element.*
requirements	1.2 Select the correct type of materials 1.3 Calculate quantity of materials required 1.4 Identify any material handling problems and take the appropriate action 1.5 Update material records
2. Batch mix raw materials	2.1 Set up and operate batching and/or mixing equipment to specifications and procedures 2.2 Batch materials as required by specifications and procedures 2.3 Check that materials prepared match requirements 2.4 Use ancillary equipment as required according to procedures 2.5 Discharge batched concrete into delivery trucks or mixers
3. Monitor batch mixing process	3.1 Check and adjust settings 3.2 Make routine checks and recognise developing problems 3.3 Identify equipment in need of maintenance or repair 3.4 Take samples and interpret test results 3.5 Check the production process and product complies with the appropriate quality procedures 3.6 Complete all required records
4. Maintain batch mixing plant and area	4.1 Keep the area and equipment clean and in good order 4.2 Shut down equipment 4.3 Complete maintenance checklists
5. Rectify routine problems	5.1 Identify and rectify faults and equipment failure 5.2 Maintain records and log books of equipment operations 5.3 Identify non-routine problems and report to designated person
6. Control hazards	6.1 Identify batching hazards 6.2 Assess the risks arising from those hazards 6.3 Implement measures to control those risks

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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. New unit. Supersedes and is equivalent to PMC552060 Batch mix concrete

Links

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Assessment Requirements for MSMPMC321 Batch mix concrete

Modification History

Release 1. New unit. Supersedes and is equivalent to PMC552060 Batch mix concrete

Performance Evidence

There must be evidence the candidate has completed the tasks outlined in the elements and performance criteria of this unit, and:

- batch mixed concrete on at least 1 occasion, including:
  - monitoring the following key variables to ensure product integrity and conformance to specification:
    - moisture content
    - sand content
    - particle size
    - quantity and mix of materials
    - equipment maintenance or repair needs
  - recognising possible causes of the following routine problems:
    - incorrect quantity of materials
    - contaminated materials and additives
    - wrong raw materials and additives
    - incorrect mixing time and technique
    - equipment faults, damage, failure.
    -

Knowledge Evidence

There must be evidence the candidate has knowledge of:

- AS 1379: Specification and supply of concrete or equivalent
- sampling and testing procedures and schedule
- principles of batch mixing concrete
- batch mixing equipment and ancillary equipment, including:
  - functions, limitations
  - start-up, operation and shutdown processes
  - the potential effects of equipment operation in relation to quality of product
- the potential effects of variations in raw materials and processes in relation to quality of product
- routine problems and factors which may affect product quality or production output, their probable causes and relevant corrective actions
- batching hazards and:

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- their possible causes
- potential consequences
- risk control procedures.
-

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:
  - batching equipment and ancillary equipment
  - materials to be batched
  - specifications, procedures and job sheets
- modelling of industry operating conditions, including:
  - routine and non-routine problems.

Assessors must satisfy the NVR/AQTF mandatory competency requirements for assessors.

Links

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MSMPMC322 Deliver concrete to site

Modification History

Release 1. New unit. Supersedes and is equivalent to PMC552061 Deliver concrete to site

Application

This unit describes the skills and knowledge required to deliver concrete to site using an agitator or similar.

This unit applies to operators who are required to take responsibility for own outputs and follow established procedures to safely drive and position the agitator truck; load agitator; mix and discharge concrete on site and communicate with customers. Operators are also required to work autonomously and apply their own judgement to interpret information; monitor processes; identify and address routine and non-routine problems and control hazards.

This unit applies to an individual working independently and with frequent contact with the base plant personnel.

The operator is required to hold a current driver's licence appropriate to the agitator truck as required by local regulations. Relevant legislation, industry standards and codes of practice within Australia must also be applied.

Pre-requisite Unit

Nil

Competency Field

Operations

Elements and Performance Criteria

Elements	**Performance Criteria**
Elements describe the essential outcomes.	*Performance criteria describe the performance needed to demonstrate achievement of the element.*

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Elements	Performance Criteria
Elements describe the essential outcomes.	*Performance criteria describe the performance needed to demonstrate achievement of the element.*
1. Load agitator	1.1 Check job requirements 1.2 Position agitator for loading 1.3 Load agitator with correct concrete batch 1.4 Check and action any special requirements 1.5 Check that slump is to specification and make necessary adjustments
2. Deliver concrete	2.1 Deliver concrete without delay 2.2 Position vehicle or agitator as required by safety needs and if practical customer requirements 2.3 Report breakdowns or lengthy delays en route to relevant person 2.4 Maintain product quality as per requirements and procedures
3. Conform to site protocols	3.1 Check access to site with customer 3.2 Assess site conditions and enter in a manner suited to the conditions, load and site requirements 3.3 Mix concrete on site according to quality requirements 3.4 Discharge concrete as required by customer 3.5 Wash down chutes and agitator in the area designated by the customer 3.6 Complete all records
4. Rectify routine problems	4.1 Identify and rectify faults and equipment failure 4.2 Maintain records and log books of equipment operations 4.3 Identify non-routine problems and report to designated person
5. Control hazards	5.1 Identify concrete delivery hazards 5.2 Assess the risks arising from those hazards 5.3 Implement measures to control those risks

Foundation Skills

This section describes those language, literacy, numeracy and employment skills that are essential to performance.

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Foundation skills essential to performance are explicit in the performance criteria of this unit of competency.

Unit Mapping Information

Release 1. New unit. Supersedes and is equivalent to PMC552061 Deliver concrete to site

Links

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Assessment Requirements for MSMPMC322 Deliver concrete to site

Modification History

Release 1. New unit. Supersedes and is equivalent to PMC552061 Deliver concrete to site

Performance Evidence

There must be evidence the candidate has completed the tasks outlined in the elements and performance criteria of this unit, and:

- delivered concrete to site using an agitator or similar on at least 1 occasion, including:
- monitoring the following key variables to ensure product integrity and conformance to specification:
  - slump
  - amount of added water
  - delays and breakdowns
  - quantity and mix of materials
  - site conditions and access
  - equipment maintenance and repair needs
- recognising possible causes of the following routine problems:
  - incorrect quantity of materials
  - contaminated materials and additives
  - wrong raw materials and additives
  - incorrect mixing time and technique
  - equipment faults, damage, failure.
  -

Knowledge Evidence

There must be evidence the candidate has knowledge of:

- AS1379: Specification and supply of concrete or equivalent
- principles of mixing concrete for on-site delivery
- equipment, including:
  - start-up, operation and shutdown procedures
  - limitations and impact on blending and mixing efficiency and effectiveness
  - the potential effects of equipment operation in relation to quality of product
- slump measurement
- customer service
- relevant road rules

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- safety protocols for on-site delivery
- waste disposal requirements
- relationship between mixing time, water-cement ratio and product quality
- the potential effects of variations in raw materials and processes in relation to quality of product
- routine problems and factors which may affect product quality or production output, their probable causes and relevant corrective actions
- delivery hazards and:
  - their possible causes
  - potential consequences
  - risk control procedures.
  -

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:
  - agitator and truck and ancillary equipment
  - concrete to be delivered
  - specifications, procedures and job sheets
- modelling of industry operating conditions, including:
  - routine and non-routine problems.

Assessors must satisfy the NVR/AQTF mandatory competency requirements for assessors.

Links

Companion Volume Implementation Guides are available at VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=d1287d36-dff4-4e9f-ad2c-9d6270054027

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MSMPMC323 Prepare asphalt

Modification History

Release 1. New unit. Supersedes and is equivalent to PMC552065 Prepare asphalt

Application

This unit describes the skills and knowledge required to prepare batches of asphalt. It applies to batching plants used in the asphalt industry, including batch, continuous, fixed and mobile plants. It applies to natural bitumen obtained from oil refineries and synthetic bitumen for coloured asphalt.

This unit applies to operators who are required to take responsibility for own outputs and follow established procedures to prepare aggregates, bitumen and other materials; set and adjust plant conditions and mix and discharge asphalt. Operators are also required to work autonomously and apply their own judgement to interpret information; monitor processes; identify and address routine and non-routine problems and control hazards.

This unit applies to an individual working alone or as part of a team or group and in liaison with other shift team members, team leader and supervisor.

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

Operations

Elements and Performance Criteria

Elements	**Performance Criteria**
Elements describe the essential outcomes.	*Performance criteria describe the performance needed to demonstrate achievement of the element.*

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Elements	**Performance Criteria**
Elements describe the essential outcomes.	*Performance criteria describe the performance needed to demonstrate achievement of the element.*
1. Determine mix requirements	1.1 Check work schedule, job specification or job card 1.2 Select correct type and quantity of aggregates and other materials 1.3 Meet all special requirements and specifications 1.4 Identify any material handling problems 1.5 Update material records
2. Mix asphalt	2.1 Check setup of equipment as required by specifications and standard procedures 2.2 Set and adjust plant conditions for required product 2.3 Feed aggregate to dryer at required rates 2.4 Prepare bitumen and other materials and add to mixer 2.5 Check that materials prepared match requirements 2.6 Use ancillary equipment 2.7 Mix to obtain required results 2.8 Discharge product to asphalt storage or delivery
3. Monitor asphalt process	3.1 Check and adjust settings 3.2 Make routine checks and recognise developing problems 3.3 Recognise equipment in need of maintenance or repair 3.4 Take sample and interpret test results 3.5 Take appropriate action to ensure continuing quality production
4. Maintain batching plant and area	4.1 Keep area and equipment clean and in good order 4.2 Unload and shut down equipment 4.3 Respond to routine problems
5. Rectify routine problems	5.1 Identify and rectify faults and equipment failure 5.2 Maintain records and log books of equipment operations 5.3 Identify non-routine problems and report to designated person
6. Control hazards	6.1 Identify asphalt preparation hazards 6.2 Assess the risks arising from those hazards 6.3 Implement measures to control those risks

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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. New unit. Supersedes and is equivalent to PMC552065 Prepare asphalt

Links

Companion Volume Implementation Guides are available at VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=d1287d36-dff4-4e9f-ad2c-9d6270054027

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Assessment Requirements for MSMPMC323 Prepare asphalt

Modification History

Release 1. New unit. Supersedes and is equivalent to PMC552065 Prepare asphalt

Performance Evidence

There must be evidence the candidate has completed the tasks outlined in the elements and performance criteria of this unit, and:

- prepared asphalt on at least 1 occasion, including:
  - monitoring the following key variables to ensure product integrity and conformance to specification:
    - moisture content
    - temperature
    - feed rates
    - quantity and mix of aggregates, additives and bitumen
    - equipment maintenance and repair needs
  - recognising possible causes of the following routine problems:
    - incorrect quantity of materials
    - contaminated materials and additives
    - wrong raw materials and additives
    - incorrect mixing time and technique
    - equipment faults, damage, failure
    -

Knowledge Evidence

There must be evidence the candidate has knowledge of:

- principles of mixing asphalt
- types of bitumen, aggregates and additives commonly used and their role
- asphalt mixing equipment including:
  - start-up, operation and shutdown procedures
  - limitations and impact on blending and mixing efficiency and effectiveness
  - the potential effects of equipment operation in relation to quality of product
- the potential effects of variations in raw materials and processes in relation to quality of product
- routine problems and factors which may affect product quality or production output, their probable causes and relevant corrective actions
- sampling and testing procedures and schedule
- asphalt preparation hazards and:

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- their possible causes
- potential consequences
- risk control procedures.
-

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:
  - asphalt mixing plant and ancillary equipment
  - raw materials
  - specifications, procedures and job sheets
- modelling of industry operating conditions, including:
  - routine and non-routine problems.

Assessors must satisfy the NVR/AQTF mandatory competency requirements for assessors.

Links

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MSMPMC324 Move materials

Modification History

Release 1. New unit. Supersedes and is equivalent to PMC562070 Move materials

Application

This unit describes the skills and knowledge required to move materials around a site.

This unit applies to operators who are required to take responsibility for own outputs and follow established procedures to plan the moving of materials; ensure safety requirements are in place; perform pre-start checks; operate the equipment and secure, shift and stack materials. Operators are also required to work autonomously and apply their own judgement to interpret information; monitor processes; identify and address routine and non-routine problems and control hazards.

The person undertaking this role may require additional competencies to cover the operation of forklift trucks, cranes or other regulated load shifting devices. These additional competencies may require a licence or certification.

This unit applies to an individual working alone or as part of a team or group and in liaison with other shift team members, team leader and supervisor.

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

Support

Elements and Performance Criteria

Elements	Performance Criteria

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Elements describe the essential outcomes.	*Performance criteria describe the performance needed to demonstrate achievement of the element.*
1. Perform pre-start checks	1.1 Perform pre-start checks of all plant and equipment in strict accordance with manufacturer and enterprise requirements 1.2 Inspect, activate and check for safe operation of all plant and equipment attachments consistent with standard operating procedures (SOPs)
2. Plan work load	2.1 Inspect work areas to identify hazards and implement the appropriate prevention and control measures 2.2 Erect relevant safety signs and barricades and take appropriate precautions to safeguard all site and non-site personnel 2.3 Select and use appropriate personal protective equipment (PPE) 2.4 Inspect work area to determine appropriate path for the movement of vehicular traffic 2.5 Check relevant work permits are issued and received by authorised personnel 2.6 Confirm job requirements and expectations with relevant personnel 2.7 Clarify non-standard requirements 2.8 Identify materials to be moved 2.9 Identify and clarify material movements required
3. Shift loads	3.1 Assess weight of load by specified methods to ensure compliance with equipment load plate specifications 3.2 Use the appropriate process, equipment and attachments to shift loads 3.3 Observe all regulatory requirements regarding shifting loads 3.4 Smoothly and consistently move controls and vehicle or equipment within safe operating practices and limits 3.5 Use standard communication signals to coordinate safe movement of load 3.6 Stack loads ensuring the stability of the stack without creating a hazard to personnel and equipment 3.7 Perform emergency evasive action should the need arise
4. Close down plant and equipment	4.1 Close down plant and equipment 4.2 Park or store and secure plant and equipment 4.3 Perform post-operational checks

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Elements	Performance Criteria
Elements describe the essential outcomes.	*Performance criteria describe the performance needed to demonstrate achievement of the element.*
	4.4 Clean down plant and equipment and dispose of waste
5. Rectify routine problems	5.1 Identify and rectify faults and equipment failure 5.2 Maintain records and log books of equipment operations 5.3 Identify non-routine problems and report to designated person

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. New unit. Supersedes and is equivalent to PMC562070 Move materials

Links

Companion Volume Implementation Guides are available at VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=d1287d36-dff4-4e9f-ad2c-9d6270054027

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Assessment Requirements for MSMPMC324 Move materials

Modification History

Release 1. New unit. Supersedes and is equivalent to PMC562070 Move materials

Performance Evidence

There must be evidence the candidate has completed the tasks outlined in the elements and performance criteria of this unit, and:

- secured, shifted and stacked materials to meet safety and job requirements on at least 1 occasion, including:
  - recognising possible causes of the following routine problems:
    - raw material variations
    - equipment faults and abnormalities
    - procedure errors
    - documentation and communication errors.
    -

Knowledge Evidence

There must be evidence the candidate has knowledge of:

- principles of safe and efficient transfer and storage of materials
- common types of plant, equipment and attachments used for shifting materials, including:
  - any licensing requirements
  - principles of operation
  - manual handling techniques and ergonomics
  - methods for determining mass and weight of loads
  - load securing methods
  - safe storage of dangerous goods and hazardous materials
  - transport requirements and restrictions for products and materials used in the work environment
  - emergency procedures
  - routine problems, their probable causes and relevant corrective actions
  - work permit system
  - hazards that may arise when moving materials and:
    - their possible causes
    - potential consequences
    - risk control procedures.
    -

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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, including:
  - equipment to move materials and personal protective equipment (PPE)
  - materials to be moved
  - specifications, procedures and job sheets
- modelling of industry operating conditions, including:
  - routine and non-routine problems.

Assessors must satisfy the NVR/AQTF mandatory competency requirements for assessors.

Links

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MSMPMC325 Operate bulk materials handling equipment

Modification History

Release 1. New unit. Supersedes and is equivalent to PMC562071 Operate bulk materials handling equipment

Application

This unit describes the skills and knowledge required to operate equipment used to store and convey bulk, particulate materials, including cement, sand, aggregate, frit, cullet and asphalt.

This unit applies to operators who are required to take responsibility for own outputs and follow established procedures to start up and shut down conveyors; transfer and store materials; monitor quality, quantity and location of bulk materials and perform minor maintenance on equipment. Operators are also required to work autonomously and apply their own judgement to interpret information; monitor processes; identify and address routine and non-routine problems and control hazards.

This unit applies to an individual working alone or as part of a team or group and in liaison with other shift team members, team leader and supervisor.

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

Support

Elements and Performance Criteria

Elements	**Performance Criteria**
Elements describe the essential outcomes.	*Performance criteria describe the performance needed to demonstrate achievement of the element.*

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Elements	**Performance Criteria**
Elements describe the essential outcomes.	*Performance criteria describe the performance needed to demonstrate achievement of the element.*
1. Operate conveyors	1.1 Identify the type and number of conveyors required 1.2 Start up and shut down the conveyor in a manner appropriate to the conveyor type and duty 1.3 Complete routine checks, logs and paperwork and act on unexpected observations, readings and trends according to standard operating procedures 1.4 Convey correct material from and to the correct location
2. Manage bulk material storages	2.1 Identify type of storage facility required 2.2 Monitor quality, quantity and location of bulk materials stored 2.3 Transfer stock into, out of and between storage 2.4 Supply internal and external customers with correct quality and quantity in a timely manner 2.5 Make effective use of storage capacity available, taking account of safety issues
3. Carry out maintenance procedures	3.1 Identify a need for maintenance 3.2 Isolate materials handling equipment and prepare for maintenance or vessel entry 3.3 Complete minor maintenance 3.4 Receive plant back from maintenance and check for safe operation 3.5 Prepare plant for the introduction of materials and for operation
4. Rectify problems	4.1 Identify and rectify faults and equipment failure 4.2 Maintain records and log books of equipment operations 4.3 Identify non-routine problems and report to designated person
5. Control hazards	5.1 Identify hazards in the material handling work area 5.2 Assess the risks arising from those hazards 5.3 Implement measures to control those risks 5.4 Shut down in an emergency

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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. New unit. Supersedes and is equivalent to PMC562071 Operate bulk materials handling equipment

Links

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Assessment Requirements for MSMPMC325 Operate bulk materials handling equipment

Modification History

Release 1. New unit. Supersedes and is equivalent to PMC562071 Operate bulk materials handling equipment

Performance Evidence

There must be evidence the candidate has completed the tasks outlined in the elements and performance criteria of this unit, and:

- operated bulk materials handling equipment to convey and store stock on at least 1 occasion, including:
  - recognising possible causes of the following routine problems:
    - raw material variations and contamination
    - instrument faults and incorrect readings
    - equipment faults and abnormalities
    - procedure errors
    - maintenance issues.
    -

Knowledge Evidence

There must be evidence the candidate has knowledge of:

- principles of safe and efficient transfer and storage of bulk materials
- principles of operation of plant, equipment and tools used in material handling
- relationship of properties of particulates to transport and storage, including:
  - particle size and shape: reactivity, solubility and colour
  - angle of repose
  - angle of slide
  - dusts
- density and bulk density
- emergency procedures
- routine problems, their probable causes and relevant corrective actions
- work permit system
- work health and safety (WHS) requirements relevant to work outcome
- hazards that may arising in bulk materials handling and:
  - their possible causes
  - potential consequences
  - risk control procedures.

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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, including:
  - bulk materials handling equipment and ancillary equipment
  - materials to be handled
  - specifications, procedures and job sheets
- modelling of industry operating conditions, including:
  - routine and non-routine problems.

Assessors must satisfy the NVR/AQTF mandatory competency requirements for assessors.

Links

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MSMPMC326 Deliver customer service

Modification History

Release 1. New unit. Supersedes and is equivalent to PMC562081 Deliver customer service

Application

This unit describes the skills and knowledge required to deliver customer service in a manufacturing workplace. It applies to customers within the organisation and external customers, including, where the operator takes orders or delivers product.

This unit applies to operators who are required to use discretion and judgement to identify customer requirements; ensure products meet customer requirements; deal with customer requests and identify areas for improvement. Operators are required to work autonomously and apply communication and technical knowledge and skills to meet customer requirements; interpret and provide technical information and deal with problems or contingencies.

This unit applies to an individual working alone or as part of a team or group and in liaison with other shift team members, team leader and supervisor.

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

Support

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 customer	1.1 Identify company and team objectives and key performance indicators (KPIs) in meeting internal and external customer

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Elements	Performance Criteria
Elements describe the essential outcomes.	*Performance criteria describe the performance needed to demonstrate achievement of the element.*
requirements	requirements 1.2 Identify own role in meeting customer requirements
2. Respond to customer requirements	2.1 Display a helpful and courteous attitude when responding to customer enquiries 2.2 Use effective questioning and listening techniques to identify customer requirements 2.3 Maintain product knowledge and give customers up to date information and advice 2.4 Use quality assurance systems to ensure products and services meet customer requirements 2.5 Follow up customer requests and provide feedback to customers in a timely manner 2.6 Complete all company documentation
3. Improve customer service	3.1 Identify methods of improving customer service and make recommendations to appropriate personnel for improvements 3.2 Implement improvements in customer service 3.3 Provide reports and appropriate feedback

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. New unit. Supersedes and is equivalent to PMC562081 Deliver customer service

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Assessment Requirements for MSMPMC326 Deliver customer service

Modification History

Release 1. New unit. Supersedes and is equivalent to PMC562081 Deliver customer service

Performance Evidence

There must be evidence the candidate has completed the tasks outlined in the elements and performance criteria of this unit, and:

- identified and responded to at least 2 customer enquiries
- recommended and implemented at least 2 customer service improvements.
-

Knowledge Evidence

There must be evidence the candidate has knowledge of:

- role of the quality system in meeting customer requirements
- types and characteristics of products and services provided by the organisation
- impact of production processes and normal operating parameters on customer service
- communication techniques, including:
  - listening
  - questioning
  - answering
  - providing feedback
  - non-verbal communication
- organisation procedures relevant to customer service, including:
  - quality assurance
  - complaints handling
  - continuous improvement
  - ordering and delivering products.
  -

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.

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MSMPMC327 Allocate and complete team tasks

Modification History

Release 1. New unit. Supersedes and is equivalent to PMC562083 Allocate and complete team tasks

Application

This unit describes the skills and knowledge required to allocate and complete team tasks in a manufacturing workplace.

This unit applies to experienced operators who are required to use technical knowledge and skills to identify team goals, allocate tasks, organise work plans, provide support, identify and act on problems and evaluate team performance. Operators are required to use own discretion, judgement and communication skills to guide and support the team to complete tasks and deal with changes in the workplace.

This unit applies to an individual working alone or as part of a team or group and in liaison with other shift team members, team leader and supervisor.

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

Support

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 tasks for team	1.1 Identify team goals with team members

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Elements	Performance Criteria
Elements describe the essential outcomes.	*Performance criteria describe the performance needed to demonstrate achievement of the element.*
	1.2 Identify tasks required to achieve goals 1.3 Identify team and individual safety responsibilities 1.4 Collaborate with team to allocate responsibilities
2. Organise individual daily work plan	2.1 Estimate time and resources needed to complete tasks safely 2.2 Renegotiate responsibilities to meet changes in the workplace 2.3 Seek assistance from other team members when needed to meet team goals
3. Participate in team	3.1 Acknowledge information and feedback provided by other team members 3.2 Provide support to colleagues to ensure designated team goals are met 3.3 Evaluate the team's performance according to its goals

Foundation Skills

This section describes those required skills (language, literacy and numeracy) 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. New unit. Supersedes and is equivalent to PMC562083 Allocate and complete team tasks

Links

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Assessment Requirements for MSMPMC327 Allocate and complete team tasks

Modification History

Release 1. New unit. Supersedes and is equivalent to PMC562083 Allocate and complete team tasks

Performance Evidence

There must be evidence the candidate has completed the tasks outlined in the elements and performance criteria of this unit, and:

- supported and collaborated with at least 1 work team to allocate and complete team tasks.
-

Knowledge Evidence

There must be evidence the candidate has knowledge of:

- sources of information about team goals, procedures, timelines, schedules and work priorities
- impact of individual team member strengths, weaknesses and competencies on the allocation of responsibilities and achievement of team goals
- planning and evaluation processes
- prioritisation and delegation techniques
- communication techniques, including:
  - listening
  - questioning
  - acknowledging
  - providing feedback
  - non-verbal communication
  -

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.

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MSMPMC328 Prepare for and apply shotcrete for installation

Modification History

Release 1. New unit. Supersedes and is equivalent to PMC552094 Prepare for and apply shotcrete for installation

Application

This unit describes the skills and knowledge required to prepare for and apply shotcrete refractory installation. Shotcrete is the generic term used to describe the placement of cementitious products, including concrete or refractory monolithics, by high volume and high velocity air. It is also known as guniting.

This unit applies to installation with shotcrete alone and with shotcrete that needs to join to brick, block, moulded or cast refractory. The refractory may be applied by wet or dry processes.

This unit applies to operators who are required to take responsibility for own outputs and follow established procedures to prepare for and apply shotcreting to procedures and specifications; mix the shotcrete and correct any deficiencies in the quality of work. Operators are also required to work autonomously and apply their own judgement to interpret information; monitor processes; identify and address routine and non-routine problems and hazards.

This unit applies to an individual working alone or as part of a team or group and in liaison with other shift team members, team leader and supervisor.

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

Operations

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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. Establish the suitability of resources	1.1 Check all information conforms with resources 1.2 Record discrepancies in information 1.3 Report any inaccuracies in information to the person in charge 1.4 Identify and select materials, components, tools and equipment
2. Apply shortcode to prepared surface	2.1 Prepare backgrounds, cutting out, demolition and keying 2.2 Mix shotcrete 2.3 Assemble and operate shotcreting equipment 2.4 Apply shotcrete 2.5 Remove and reinstate damaged shotcrete material 2.6 Maintain tools and equipment
3. Respond to problems	3.1 Identify problems in equipment or process 3.2 Rectify problem using appropriate solution 3.3 Report problems outside area of responsibility to designated person
4.Contribute to controlling hazards in work area	4.1 Identify shotcreting hazards 4.2 Assess risks arising from those hazards 4.3 Implement measures to control those risks

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.

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Unit Mapping Information

Release 1. New unit. Supersedes and is equivalent to PMC552094 Prepare for and apply shotcrete for installation

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Assessment Requirements for MSMPMC328 Prepare for and apply shotcrete for installation

Modification History

Release 1. New unit. Supersedes and is equivalent to PMC552094 Prepare for and apply shotcrete for installation

Performance Evidence

There must be evidence the candidate has completed the tasks outlined in the elements and performance criteria of this unit, and:

- mixed and applied shotcrete to at least 1 surface, including:
  - monitoring the following key variables to achieve required specifications:
    - uniformity and thickness of course
    - consistency of mix
    - correct compaction
    - conforming to required curves and angles
    - adhesion to surface
    - tying to structure
    - keying to existing refractory
    - cutting requirements
    - support requirements
  - recognising possible causes of the following routine problems:
    - raw material variations
    - equipment faults and abnormalities
    - procedure errors.
    -

Knowledge Evidence

There must be evidence the candidate has knowledge of:

- types, uses and characteristics of:
  - shotcreting materials and finishes
  - background surfaces
  - temporary support and formwork
- types, uses and operation of tools and equipment used in the process
- reasons for, and timing of, dedicated curing and heat-up programs and the consequences of the installed concrete if the program is not correctly followed
- reasons for and methods of:

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  - background surface preparation
  - protecting work during installation
  - removing damaged refractory
  - keying and bonding new to existing refractories
  - obtaining seals between new and existing refractory
  - providing test panels
  - curing shotcrete
  - cutting
  - mixing and applying shotcreting materials
  - avoiding lamination of applied shotcreting materials
  - protecting applied shotcreting material during application and curing
  - finishing the surface of the shotcrete
- safeguards to take during reinstatement
- routine problems, their probable causes and relevant corrective actions
- shotcreting hazards and:
  - their possible causes
  - potential consequences
  - risk control procedures.
  -

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:
  - shotcreting equipment
  - shotcrete materials
  - specifications, procedures and job sheets
- modelling of industry operating conditions, including:
  - routine and non-routine problems.

Assessors must satisfy the NVR/AQTF mandatory competency requirements for assessors.

Links

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MSMPMC329 Prepare moulds and dies

Modification History

Release 1. New unit. Supersedes and is equivalent to PMC553020 Prepare moulds and dies

Application

This unit describes the skills and knowledge required to prepare moulds, dies, frames and cases to make products from materials, such as concrete, clay and ceramics. It applies to both large production and smaller craft contexts.

This unit applies to experienced operators who are required to take responsibility for own outputs and follow established procedures to make the items to ensure product is to specifications and prepare them for use. Operators are also required to work autonomously and apply their own judgement to interpret information; monitor processes; identify and address routine and non-routine problems and control hazards.

The experienced operator may work alone or as part of a team or group and in liaison with other shift team members, team leader and supervisor.

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

Operations

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 cases and	1.1 Check manufacturing schedule to determine type of mould to be

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Elements	**Performance Criteria**
Elements describe the essential outcomes.	*Performance criteria describe the performance needed to demonstrate achievement of the element.*
frames	made 1.2 Set up materials for case making to procedure 1.3 Make case to specification 1.4 Check case against requirements
2. Prepare and make working moulds	2.1 Pick the required case or frame 2.2 Make the working mould to procedures 2.3 Remove working mould from the case 2.4 Check, finish and store mould to procedures
3. Prepare dies	3.1 Check manufacturing schedule for type of die needed 3.2 Set up materials for die making to procedure 3.3 Make die to specifications 3.4 Remove working die from master die and prepare for use to procedure
4. Respond to problems	4.1 Identify routine and non-routine problems in the equipment or process 4.2 Rectify problem using appropriate solution within area of responsibility 4.3 Report problems outside area of responsibility to designated person
5. Cotnrol hazards	5.1 Identify hazards relating to moulds and dies 5.2 Assess the risks arising from those hazards 5.3 Implement measures to control those risks

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.

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Unit Mapping Information

Release 1. New unit. Supersedes and is equivalent to PMC553020 Prepare moulds and dies

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Assessment Requirements for MSMPMC329 Prepare moulds and dies

Modification History

Release 1. New unit. Supersedes and is equivalent to PMC553020 Prepare moulds and dies

Performance Evidence

There must be evidence the candidate has completed the tasks outlined in the elements and performance criteria of this unit, and:

- constructed the following moulding items to specification on at least 1 occasion:
  - working mould
  - die
  - frame or case
- monitored the following key variables to ensure product integrity and conformance to specification:
  - shape
  - dimensions
  - shrinkage
  - type of material for product
  - integrity and conformance to specification of the moulding item
- recognised possible causes of the following routine problems:
  - incorrect materials
  - variations in materials
  - equipment malfunction
  - procedure errors
  - incorrect specifications.
  -

Knowledge Evidence

There must be evidence the candidate has knowledge of:

- types of moulds, dies, frames, cases and their functions
- materials properties and impact on design and construction of moulds, dies, frames and cases, including:
  - additives
  - release agents
  - epoxy resins
  - concrete

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  - clay
  - plaster
  - ceramics
- quality requirements at each stage of production
- the potential effects of variations in raw materials and equipment operation or processes in relation to quality of moulding items and product
- routine problems, their probable causes and relevant corrective actions
- mould and die hazards and:
  - their possible causes
  - potential consequences
  - risk control procedures.
  -

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:
  - moulds, dies, frames or cases and materials
  - specifications, procedures and job sheets
- modelling of industry operating conditions, including:
  - routine and non-routine problems.

Assessors must satisfy the NVR/AQTF mandatory competency requirements for assessors.

Links

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MSMPMC330 Produce architectural precast concrete

Modification History

Release 1. New unit. Supersedes and is equivalent to PMC553050 Produce architectural precast concrete

Application

This unit describes the skills and knowledge required to produce architectural precast concrete products.

This unit applies to experienced operators who are required to take responsibility for own outputs and follow established procedures to prepare mould assemblies, fittings and reinforcement (not pre-stressed) and mould, cure and strip the product. Operators are also required to work autonomously and apply their own judgement to interpret information; monitor processes; identify and address routine and non-routine problems and control hazards.

The experienced operator may work alone or as part of a team or group and in liaison with other shift team members, team leader and supervisor.

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

Operations

Elements and Performance Criteria

Elements	**Performance Criteria**
Elements describe the essential outcomes.	*Performance criteria describe the performance needed to demonstrate achievement of the element.*

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Elements	**Performance Criteria**
Elements describe the essential outcomes.	*Performance criteria describe the performance needed to demonstrate achievement of the element.*
1. Prepare mould for casting	1.1 Check casting schedule, drawings and job specification 1.2 Check finish and veneer requirements for any or all faces, edges or surfaces 1.3 Prepare veneering equipment and formwork to temporarily support veneers and backing concrete
2. Prepare reinforcement	2.1 Check quantities, type, size and shape of reinforcement supplied against drawings and schedules 2.2 Place reinforcement and check concrete covers 2.3 Complete mould assembly 2.4 Insert lifting devices, lugs, fixing and other fittings according to drawings and specifications 2.5 Seal mould
3. Cast concrete	3.1 Pour concrete in correct sequence according to work schedule 3.2 Check adequate vibration 3.3 Complete casting process to plans and specification 3.4 Prepare test samples and/or cylinder as required by work instructions 3.5 Screed to a flat, accurate surface in preparation for finishing 3.6 Finish green concrete as required 3.7 Wet patch as required
4. Cure product	4.1 Cover and cure mould in accordance with standard procedure and any special requirements 4.2 Monitor curing to achieve specified stripping strength
5. Strip and store product	5.1 Safely remove mould parts at appropriate time, with care, and inspect for damage 5.2 Lift unit using appropriate lifting equipment and lifting methods 5.3 Arrange storage using protective pads to ensure against damage
6. Respond to problems	6.1 Identify routine and non-routine problems in the equipment or process 6.2 Rectify problems using appropriate solution within area of responsibility

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Elements	Performance Criteria
Elements describe the essential outcomes.	*Performance criteria describe the performance needed to demonstrate achievement of the element.*
	6.3 Report problems outside area of responsibility to designated person
7. Control hazards	7.1 Identify architectural precast concrete production hazards 7.2 Assess the risks arising from those hazards 7.3 Implement measures to control those risks

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. New unit. Supersedes and is equivalent to PMC553050 Produce architectural precast concrete

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Assessment Requirements for MSMPMC330 Produce architectural precast concrete

Modification History

Release 1. New unit. Supersedes and is equivalent to PMC553050 Produce architectural precast concrete

Performance Evidence

There must be evidence the candidate has completed the tasks outlined in the elements and performance criteria of this unit, and:

- produced at least 1 architectural precast concrete product, including:
  - monitoring the following key variables to ensure product integrity and conformance to specification:
    - mould condition
    - amount and consistency of concrete mix
    - placement of reinforcement and fittings
    - concrete cover
    - compaction and vibration
    - curing conditions
    - curing time and rate
    - stripping strength
  - recognising possible causes of the following routine problems:
    - raw material and mix variations
    - mould anomalies
    - casting and operating conditions
    - process errors.
    -

Knowledge Evidence

There must be evidence the candidate has knowledge of:

- principles of casting process
- significance to architectural concrete products of key factors, including:
  - veneer adhesion
  - concrete cover
  - role of reinforcement
  - placement of reinforcement and fittings
  - curing

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  - compaction and vibration
  - mould design
  - mould condition and wear
  - water-cement ratio
  - concrete finishing
- methods of curing
- compaction methods
- fabrication methodologies
- concrete sampling and testing procedures
- the potential effects of variations in raw materials and equipment operation, processes in relation to quality of product
- quality requirements at each stage of production
- common adjustments in variables and their impact on product quality and production output
- routine problems, their probable causes and relevant corrective actions
- architectural precast concrete production hazards and:
  - their possible causes
  - potential consequences
  - risk control procedures.
  -

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:
  - architectural precast concrete production equipment and ancillary equipment
  - materials to be processed
  - specifications, procedures and job sheets
- modelling of industry operating conditions, including:
  - routine and non-routine problems.

Assessors must satisfy the NVR/AQTF mandatory competency requirements for assessors.

Links

Companion Volume Implementation Guides are available at VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=d1287d36-dff4-4e9f-ad2c-9d6270054027

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MSMPMC400 Carry out stock control

Modification History

Release 1. New unit. Supersedes and is equivalent to PMC563081 Carry out stock control

Application

This unit describes the skills and knowledge required to carry out stock control. It applies to stock held in a store, warehouse or locally in the plant.

This unit applies to experienced operators, leading hands, supervisors or those in similar roles who are required to monitor stock levels, reconcile stock with inventory data and liaise with suppliers. Operators use a broad range of specialised knowledge and skills to interpret and provide information; identify and resolve problems and communicate technical solutions and advice.

This unit applies to an individual working alone or as part of a team or group and in liaison with other shift team members, team leader and supervisor.

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

Support

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 stock reordering	1.1 Monitor stock levels and maintain them at optimum levels 1.2 Adjust stock reorder levels in response to customer demand

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Elements	Performance Criteria
Elements describe the essential outcomes.	*Performance criteria describe the performance needed to demonstrate achievement of the element.*
	1.3 Receive stock and report quality and quantity variations of delivered goods to suppliers 1.4 Identify and use alternative suppliers which meet required quality and safety standards when required 1.5 Reorder stock in compliance with procedures
2. Maintain inventory records systems	2.1 Maintain accurate records of the storage and the movement of stock 2.2 Identify, and act upon, stock discrepancies 2.3 Ensure minimum inconvenience to customers resulting from stock movements
3. Undertake stocktaking and cyclical counts	3.1 Coordinate stocktaking and cyclical counts 3.2 Reconcile inventory data with actual stock on hand 3.3 Report stock variations or shortages 3.4 Identify missing or damaged stock and report
4. Respond to problems	4.1 Identify possible problems in stock levels, storage, quantity and quality if stock, timeliness of supplies and production issues 4.2 Rectify problems using appropriate solution within area of responsibility 4.3 Report problems outside area of responsibility to designated person
5. Control hazards	5.1 Identify stock control hazards 5.2 Assess the risks arising from those hazards 5.3 Implement measures to control those risks

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.

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Unit Mapping Information

Release 1. New unit. Supersedes and is equivalent to PMC563081 Carry out stock control

Links

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Assessment Requirements for MSMPMC400 Carry out stock control

Modification History

Release 1. New unit. Supersedes and is equivalent to PMC563081 Carry out stock control

Performance Evidence

There must be evidence the candidate has completed the tasks outlined in the elements and performance criteria of this unit, and:

- carried out stock control for at least 1 store, warehouse or plant, including monitoring the following key variables:
  - production requirements
  - stock levels
  - reorder levels
  - quantity and quality of deliveries
  - supplier contracts
  - stock condition
- identified discrepancies in stock quantities and/or quality.
-

Knowledge Evidence

There must be evidence the candidate has knowledge of:

- methods of monitoring production requirements and stock availability
- effective inventory management techniques to meet production requirements
- supplier contractual requirements
- stock control, stocktaking and cycle counting techniques
- optimum stock levels and relationship with cost
- methods of identifying and rectifying variations to quality and quantity of delivered goods
- methods and criteria for sourcing alternative suppliers
- routine and non-routine problems that may arise, the range of possible causes and appropriate actions
- stock control hazards and:
  - their possible causes
  - potential consequences
  - risk control procedures.
  -

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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, 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 available at VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=d1287d36-dff4-4e9f-ad2c-9d6270054027

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MSMPMC401 Set up and tune a process

Modification History

Release 1. New unit. Supersedes and is equivalent to PMC553000 Set up and tune a process

Application

This unit describes the skills and knowledge required to set up and tune a process as typically required for start-up, job change and equipment changes in preparation for production.

This unit applies to experienced operators, leading hands, supervisors or those in similar roles who are required to shut down and isolate equipment, prepare and set up equipment, adjust to remedy faults and non-conformity and solve problems within area of responsibility.

This unit applies to an experienced operator demonstrating broad theoretical and technical knowledge and well-developed skills in situations that require some discretion and judgement. The experienced operator may work alone or as part of a team or group and in liaison with other shift team members, team leader and supervisor.

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

Operations

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 equipment installation or change	1.1 Identify all safety and emergency procedures 1.2 Shut down equipment in accordance with procedures and

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Elements	**Performance Criteria**
Elements describe the essential outcomes.	*Performance criteria describe the performance needed to demonstrate achievement of the element.*
parts	manufacturer specifications 1.3 Isolate equipment 1.4 Remove ancillary equipment 1.5 Complete records and logs for removal of equipment or change parts
2. Prepare the proess for production	2.1 Consult the production schedule to determine the product to be manufactured 2.2 Ensure that the raw materials are available 2.3 Ensure that the equipment or change parts, ancillaries and fixtures are available 2.4 Perform pre-instalment equipment preparation according to procedures 2.5 Check that the equipment is in a safe condition for use
3. Set up process	3.1 Perform checks and tests to product and equipment specifications 3.2 Check alignment of all equipment according to product specifications and procedures 3.3 Check that process or equipment is set up as required for the production schedule
4. Tune the process	4.1 Monitor operation and compare with standard operating procedures (SOPs) 4.2 Identify any deviation from standard performance 4.3 Identify the cause of the deviation and act 4.4 Adjust the equipment settings, process conditions or raw materials to bring production into specification 4.5 Continue monitoring operation and adjusting until product or equipment is within specification
5. Respond to problems	5.1 Identify routine and non-routine problems in the equipment or process 5.2 Rectify problem using appropriate solution within area of responsibility 5.3 Report problems outside area of responsibility to designated person

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Elements	Performance Criteria
Elements describe the essential outcomes.	*Performance criteria describe the performance needed to demonstrate achievement of the element.*
6. Control hazards	6.1 Identify hazards associated with the equipment or process 6.2 Assess the risks arising from those hazards 6.3 Implement measures to control those risks

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. New unit. Supersedes and is equivalent to PMC553000 Set up and tune a process

Links

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Assessment Requirements for MSMPMC401 Set up and tune a process

Modification History

Release 1. New unit. Supersedes and is equivalent to PMC553000 Set up and tune a process

Performance Evidence

There must be evidence the candidate has completed the tasks outlined in the elements and performance criteria of this unit, and:

- set up and tuned a process on at least 1 occasion, including:
  - monitoring the following key variables to ensure product integrity and conformance to specification:
    - operating temperatures
    - pressure
    - material flow
    - discharge rates
    - material properties and chemical reactions
    - cycle time
    - output rate
  - recognising possible causes of the following problems:
    - wrong reading
    - instrument failure or malfunction
    - electrical or mechanical failure or malfunction
    - raw material variations or contamination
    - process abnormality
    - procedural error.
    -

Knowledge Evidence

There must be evidence the candidate has knowledge of:

- equipment used in the process, including:
  - functions, limitations
  - start-up, operation and shutdown processes
  - impact of equipment settings on product quality and production output
- impact of variations in process conditions and raw materials on product quality and production output
- characteristics of materials being processed and their behaviour in relation to process conditions and stages of production

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- quality requirements at each stage of production
- common adjustments in process variables and their impact on product quality and production output
- routine and non-routine problems that may arise, the range of possible causes and appropriate actions
- hierarchy of control
- work health and safety (WHS) requirements relevant to work outcome
- hazards relating to equipment and/or process:
  - their possible causes
  - potential consequences
  - risk control procedures.
  -

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

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MSMPMC402 Process raw meal into product

Modification History

Release 1. New unit. Supersedes and is equivalent to PMC553010 Process raw meal into product

Application

This unit describes the skills and knowledge required to process raw meal through a kiln to produce cement and/or lime product.

This unit applies to experienced operators, leading hands, supervisors or those in similar roles who are required to perform pre-start, start-up and shutdown procedures; monitor and adjust the process to maximise throughput and maintain quality; distribute product to storage and solve problems within area of responsibility.

This unit applies to an experienced operator demonstrating broad theoretical and technical knowledge and well-developed skills in situations that require some discretion and judgement. The experienced operator may work alone or as part of a team or group and in liaison with other shift team members, team leader and supervisor.

This competency does not require the operation of a central control panel.

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

MSMPMC307 Operate a calcining kiln

Competency Field

Operations

Elements and Performance Criteria

Elements	Performance Criteria

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Elements describe the essential outcomes.	*Performance criteria describe the performance needed to demonstrate achievement of the element.*
1. Prepare for processing	1.1 Notify and keep informed all relevant people about the status of operations and any intention to make changes 1.2 Perform all pre-start and settings checks in accordance with standard operating procedures (SOPs) 1.3 Set up and configure equipment start-up function complying with procedures 1.4 Load raw materials 1.5 Start up plant or equipment
2. Process raw material	2.1 Commence and continue process operations in accordance with specified operating procedures 2.2 Monitor and check instrument and control panels against target parameters for variations, fluctuations or trends 2.3 Maximise throughput of system while meeting quality target parameters 2.4 Check and adjust ancillary equipment
3. Distribute product to storage	3.1 Monitor and perform necessary adjustments to discharge rate and temperature as required 3.2 Monitor the distribution transport system for efficiency and spillages and take appropriate action 3.3 Monitor the distribution of product to the correct storage area and level of product in that area, and redirect as required
4.Shut down equipment	4.1 Ensure line is clear of all product and shutdown equipment 4.2 Complete appropriate records and logs
5. Prepare equipment for maintenance	5.1 Isolate equipment 5.2 Remove any broken materials safely 5.3 Ensure area is clear and safe for maintenance
6. Respond to problems	6.1 Identify routine and non-routine problems in the equipment or process 6.2 Rectify problem using appropriate solution within area of responsibility 6.3 Report problems outside area of responsibility to designated person
7. Control hazards	7.1 Identify hazards in kiln work area

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Elements	Performance Criteria
Elements describe the essential outcomes.	*Performance criteria describe the performance needed to demonstrate achievement of the element.*
	7.2 Assess the risks arising from those hazards 7.3 Implement measures to control those risks 7.4 Shut down equipment in an emergency

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. New unit. Supersedes and is equivalent to PMC553010 Process raw meal into product

Links

Companion Volume Implementation Guides are available at VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=d1287d36-dff4-4e9f-ad2c-9d6270054027

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Assessment Requirements for MSMPMC402 Process raw meal into product

Modification History

Release 1. New unit. Supersedes and is equivalent to PMC553010 Process raw meal into product

Performance Evidence

There must be evidence the candidate has completed the tasks outlined in the elements and performance criteria of this unit, and:

- processed raw meal into at least 1 product, including:
  - monitoring the following key variables to ensure product integrity and conformance to specification:
    - operating temperatures
    - material feed rate
    - discharge rate
    - material properties and chemical reactions
  - recognising possible causes of the following problems:
    - electrical, mechanical or instrument failure and malfunction
    - raw material variations and contamination
    - kiln quality and optimisation practices
    - types of kiln fuels and reactions
    - process abnormalities
    - procedural errors.
    -

Knowledge Evidence

There must be evidence the candidate has knowledge of:

- equipment, including:
  - functions, limitations
  - start-up, operation and shutdown processes
  - impact of equipment settings on product quality and production output
- impact of variations in process conditions and raw materials on product quality and production output
- characteristics of materials being processed and their behaviour in relation to process conditions and stages of production
- quality requirements at each stage of production

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- common adjustments in process variables and their impact on product quality and production output
- routine and non-routine problems that may arise, the range of possible causes and appropriate actions
- work health and safety (WHS) requirements relevant to work outcome
- processing hazards and:
  - their possible causes
  - potential consequences
  - risk control procedures.
  -

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:
  - kiln, ancillary and supporting equipment
  - materials to be processed
  - specifications, procedures and job sheets
- modelling of industry operating conditions, including:
  - routine and non-routine problems.

Assessors must satisfy the NVR/AQTF mandatory competency requirements for assessors.

Links

Companion Volume Implementation Guides are available at VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=d1287d36-dff4-4e9f-ad2c-9d6270054027

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MSMPMC403 Set up and optimise glass forming process

Modification History

Release 1. New unit. Supersedes and is equivalent to PMC553040 Set up and optimise glass forming process

Application

This unit describes the skills and knowledge required to set up and optimise a glass forming process. It applies to forming of glass as typically used in production of flat glass, glass containers and glass fibre products.

This unit applies to experienced operators, leading hands, supervisors or those in similar roles who are required to perform shutdown and isolation procedures, prepare and set up equipment, perform changeovers, make adjustments to optimise process, remedy faults or non-conformity and solve problems within area of responsibility.

This unit applies to an experienced operator demonstrating broad theoretical and technical knowledge and well-developed skills in situations that require some discretion and judgement. The experienced operator may work alone or as part of a team or group and in liaison with other shift team members, team leader and supervisor.

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

Operations

Elements and Performance Criteria

Elements	**Performance Criteria**
Elements describe the essential outcomes.	*Performance criteria describe the performance needed to demonstrate achievement of the element.*

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Elements	**Performance Criteria**
Elements describe the essential outcomes.	*Performance criteria describe the performance needed to demonstrate achievement of the element.*
1. Prepare for equipment installation	1.1 Determine the product to be manufactured 1.2 Ensure that the equipment change parts, ancillaries and fixtures are available 1.3 Perform pre-instalment equipment preparation according to procedures 1.4 Ensure that the equipment is in a safe condition for use
2. Remove current equipment and/or tooling	2.1 Identify and implement all safety and emergency procedures 2.2 Shut down equipment 2.3 Isolate equipment 2.4 Remove ancillary equipment 2.5 Complete records and logs for removal of current equipment
3. Install and set up new equipment an/or tooling	3.1 Perform required checks and tests prior to installation 3.2 Identify any faults in equipment or tooling and take appropriate action 3.3 Install and set up appropriate ancillary equipment 3.4 Set up equipment and tooling as required
4. Monitor, interpret data and adjust operation	4.1 Monitor process data 4.2 Ensure forming equipment start-up function complies with work instructions 4.3 Operate glass forming equipment 4.4 Monitor plant and process and deduce conditions of materials in process and products being made 4.5 Take appropriate action to improve process operation 4.6 Check that process operation has improved 4.7 Monitor and adjust until production is as required
5. Sample, test and record product data	5.1 Sample product in line with enterprise requirements 5.2 Complete appropriate test to enterprise and client requirements 5.3 Identify variations from process parameters and take appropriate action 5.4 Measure, graph and record operating parameters, according to enterprise requirements

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Elements	Performance Criteria
Elements describe the essential outcomes.	*Performance criteria describe the performance needed to demonstrate achievement of the element.*
	5.5 Record test results
6. Shut down equipment	6.1 Ensure equipment is left in a safe manner for shutdown 6.2 Shut down equipment and complete appropriate records and logs
7. Prepare equipment for maintenance	7.1 Isolate equipment 7.2 Make sure area is clear and safe for maintenance 7.3 Complete all records and logs
8. Rectify routine problems	8.1 Identify and rectify routine problems 8.2 Maintain records and log books of equipment operations 8.3 Identify non-routine problems and report to designated person
9. Control hazards	9.1 Identify glass forming hazards 9.2 Assess the risks arising from those hazards 9.3 Implement measures to control those risks 9.4 Shut down equipment in an emergency

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. New unit. Supersedes and is equivalent to PMC553040 Set up and optimise glass forming process

Links

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Assessment Requirements for MSMPMC403 Set up and optimise glass forming process

Modification History

Release 1. New unit. Supersedes and is equivalent to PMC553040 Set up and optimise glass forming process

Performance Evidence

There must be evidence the candidate has completed the tasks outlined in the elements and performance criteria of this unit, and:

- set up and optimised a glass forming process on at least 1 occasion, including:
  - monitoring the following key variables to ensure product integrity and conformance to specification:
    - installation and performance of equipment and tooling
    - process parameters
    - yield
    - energy utilisation
    - variations
    - fluctuations
    - trends
    - material properties and chemical reactions
  - recognising possible causes of the following problems:
    - electrical, mechanical and instrument failure and malfunction
    - wrong readings
    - material variations and contamination
    - process abnormalities
    - procedural errors
    - atmospheric conditions.
    -

Knowledge Evidence

There must be evidence the candidate has knowledge of:

- principles of glass forming process
- glass forming, ancillary, measuring and recording equipment, including:
  - functions, limitations
  - start-up, operation and shutdown processes
  - impact of equipment settings on product quality, production output and optimisation of process

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- impact of variations in process conditions and raw materials on product quality, production output and optimisation of process
- importance of atmospheric conditions and effect on process
- characteristics of materials being processed and their behaviour in relation to process conditions and stages of production
- quality requirements at each stage of production
- common adjustments in process variables and their impact on product quality and production output
- routine and non-routine problems that may arise, the range of possible causes and appropriate actions
- work health and safety (WHS) requirements relevant to work outcome
- glass forming hazards and:
  - their possible causes
  - potential consequences
  - risk control procedures.
  -

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:
  - glass forming equipment, ancillary equipment and materials
  - specifications, procedures and job sheets
- modelling of industry operating conditions, including:
  - routine and non-routine problems.

Assessors must satisfy the NVR/AQTF mandatory competency requirements for assessors.

Links

Companion Volume Implementation Guides are available at VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=d1287d36-dff4-4e9f-ad2c-9d6270054027

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MSMRV310 Fit recreational vehicle floor

Modification History

Release 1 - New unit.

Application

This unit of competency covers the skills and knowledge required to fit a floor in a recreational vehicle. The work will be carried out in a recreational vehicle manufacturing facility.

This unit of competency covers the preparation for, laying of and clean-up after the laying of a floor, including fixing to the chassis and laying vinyl, carpet or other covering.

The operator will be required to work to procedures, and follow plans/specifications for what is required.

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.

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

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1	**Plan the work**	1.1	Review the requirements of the work
		1.2	Check required tools and jigs are available at the worksite
		1.3	Check required materials are available at the worksite
		1.4	Identify any hazards and the related hazard controls
		1.5	Check the hazard controls are in place and operational
		1.6	Query any items that are different to usual and clarify requirements
2	**Fix the floor in accordance with procedures**	2.1	Use relevant hazard controls, including personal protective equipment (PPE)
		2.2	Place the floor/floor components and align in the required position
		2.3	Clamp/hold floor in place as required
		2.4	Drill holes/make any penetrations required
		2.5	Fix floor to chassis or other support as required
3	**Lay floor covering**	3.1	Apply adhesive as required
		3.2	Locate covering in correct position
		3.3	Fix covering to floor in accordance with procedures
4	**Finish floor fit**	4.1	Check floor has been fitted correctly and make any required adjustments
		4.2	Clean up recreational vehicle and work area, leaving it ready for the next job
		4.3	Segregate and handle waste in accordance with procedures
		4.4	Complete any required documentation/records

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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:

- work instructions
- standard operating procedures (SOPs)
- safe work method statements (SWMS)
- temporary instructions
- any similar instructions provided for the smooth running of the plant

Hazards

Hazards include one or more of the following:

- heat, dust or other atmospheric hazards
- electricity
- gas
- equipment failures
- industrial (machinery, equipment and product)
- noise, rotational equipment or vibration

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- 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:

- equipment/plant/machine malfunction
- variations in process conditions
- variations in materials or contamination of materials
- equipment, tool, die or mould damage
- product faults
- tooling problems

Known solutions are drawn from one or more of the following:

- procedures
- training
- remembered experience

Non-routine problems must be reported according to relevant procedures.

Unit Mapping Information

No equivalent unit

Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=d1287d36-dff4-4e9f-ad2c-9d6270054027

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Assessment Requirements for MSMRV310 Fit recreational vehicle floor

Modification History

Release 1 - New unit.

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:

- fit/refit floor on at least three (3) recreational vehicles
- identify hazards and apply relevant hazard controls
- recognise situations requiring action and take the appropriate action
- communicate effectively with team/work group and supervisors.

Knowledge Evidence

Evidence must be provided that demonstrates knowledge of:

- hazards that may arise in the job/work environment
- fitting procedures and the reasons for those procedures
- materials and tools to be used and their correct usage
- checks and adjustments to be made.

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 that include typical disruptions to normal, smooth operations
  - will typically include a supervisor/third-party report or other evidence, 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
  - may use industry-based simulation for all or part of the unit particularly where safety, lack of opportunity or significant cost is an issue.

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- 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.
- 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

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MSMRV311 Fit furniture in a recreational vehicle

Modification History

Release 1 - New unit.

Application

This unit of competency covers the skills and knowledge required to fit furniture in a recreational vehicle. The work will be carried out in a recreational vehicle manufacturing facility.

This unit of competency covers the preparation for, fitting of, and clean-up after the fitting of the furniture.

The operator will be required to work to procedures, and follow plans/specifications for what is required.

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.

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

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1	**Plan the work**	1.1	Review the requirements of the work
		1.2	Check required tools and jigs are available at the worksite
		1.3	Check required components are available at the worksite
		1.4	Identify any hazards and the related hazard controls
		1.5	Check the hazard controls are in place and operational
		1.6	Query any items that are different to usual and clarify requirements
2	**Fit the furniture in accordance with procedures**	2.1	Use relevant hazard controls, including personal protective equipment (PPE)
		2.2	Place the furniture/furniture components and align in the required position
		2.3	Clamp/hold furniture in place as required
		2.4	Drill holes/make any penetrations required
		2.5	Fix furniture to floor and walls as required
		2.6	Complete furniture assembly as required
3	**Finish furniture fit**	3.1	Check furniture has been fitted correctly and make any required adjustments
		3.2	Clean up recreational vehicle and work area, leaving it ready for the next job
		3.3	Segregate and handle waste in accordance with procedures
		3.4	Complete any required documentation/records

Foundation Skills

This section describes those language, literacy, numeracy and employment skills that are essential to performance.

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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:

- work instructions
- standard operating procedures (SOPs)
- safe work method statements (SWMS)
- temporary instructions
- any similar instructions provided for the smooth running of the plant

Hazards

Hazards include one or more of the following:

- heat, dust or other atmospheric hazards
- electricity
- gas
- 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

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- 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:

- equipment/plant/machine malfunction
- variations in process conditions
- variations in materials or contamination of materials
- equipment, tool, die or mould damage
- product faults
- tooling problems

Known solutions are drawn from one or more of the following:

- procedures
- training
- remembered experience

Non-routine problems must be reported according to relevant procedures.

Unit Mapping Information

No equivalent unit

Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=d1287d36-dff4-4e9f-ad2c-9d6270054027

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Assessment Requirements for MSMRV311 Fit furniture in a recreational vehicle

Modification History

Release 1 - New unit.

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:

- fit/refit furniture on at least three (3) recreational vehicles
- identify hazards and apply relevant hazard controls
- recognise situations requiring action and take the appropriate action
- communicate effectively with team/work group and supervisors.

Knowledge Evidence

Evidence must be provided that demonstrates knowledge of:

- hazards that may arise in the job/work environment
- fitting procedures and the reasons for those procedures
- materials and tools to be used and their correct usage
- checks and adjustments to be made.

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 or other evidence, 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
  - may use industry-based simulation for all or part of the unit particularly where safety, lack of opportunity or significant cost is an issue.

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- 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.
- 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

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MSMRV312 Fit water systems in a recreational vehicle

Modification History

Release 1 - New unit.

Application

This unit of competency covers the skills and knowledge required to fit water systems in a recreational vehicle. The work will be carried out in a recreational vehicle manufacturing facility.

This unit of competency covers the preparation for, fitting of, and clean-up after the fitting of the water system.

The operator will be required to work to procedures, and follow plans/specifications for what is required.

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.

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

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1	**Plan the work**	1.1	Review the requirements of the work
		1.2	Check required tools and jigs are available at the worksite
		1.3	Check required components are available at the worksite
		1.4	Identify any hazards and the related hazard controls
		1.5	Check the hazard controls are in place and operational
		1.6	Query any items that are different to usual and clarify requirements
2	**Fit the water system in accordance with procedures**	2.1	Use relevant hazard controls, including personal protective equipment (PPE)
		2.2	Run water pipes from source to required services/appliances
		2.3	Run waste pipes from wastewater source to required location
		2.4	Drill holes/make any penetrations required in frame
		2.5	Fix all pipes in position as required
		2.6	Complete fitting of water system as required
3	**Finish water system fit**	3.1	Check water system has been fitted correctly and make any required adjustments
		3.2	Clean up recreational vehicle and work area, leaving it ready for the next job
		3.3	Segregate and handle waste in accordance with procedures
		3.4	Complete any required documentation/records

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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:

- work instructions
- standard operating procedures (SOPs)
- safe work method statements (SWMS)
- temporary instructions
- any similar instructions provided for the smooth running of the plant

Hazards

Hazards include one or more of the following:

- heat, dust or other atmospheric hazards
- electricity
- gas
- equipment failures
- industrial (machinery, equipment and product)
- noise, rotational equipment or vibration
- hazardous products and materials

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- 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:

- equipment/plant/machine malfunction
- variations in process conditions
- variations in materials or contamination of materials
- equipment, tool, die or mould damage
- product faults
- tooling 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

No equivalent unit

Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=d1287d36-dff4-4e9f-ad2c-9d6270054027

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Assessment Requirements for MSMRV312 Fit water systems in a recreational vehicle

Modification History

Release 1 - New unit.

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:

- fit water systems on at least three (3) recreational vehicles
- identify hazards and apply relevant hazard controls
- recognise situations requiring action and take the appropriate action
- communicate effectively with team/work group and supervisors.

Knowledge Evidence

Evidence must be provided that demonstrates knowledge of:

- hazards that may arise in the job/work environment
- fitting procedures and the reasons for those procedures
- materials and tools to be used and their correct usage
- checks and adjustments to be made.

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 operation
  - will typically include a supervisor/third-party report or other evidence, 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
  - may use industry-based simulation for all or part of the unit particularly where safety, lack of opportunity or significant cost is an issue.

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- 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.
- 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

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MSMRV313 Fit 12 V cable systems in a recreational vehicle

Modification History

Release 1 - New unit.

Application

This unit of competency covers the skills and knowledge required to fit 12 V cable systems in a recreational vehicle. The work will be carried out in a recreational vehicle manufacturing facility.

This unit of competency covers the preparation for, fitting of and clean-up after the fitting of the 12 V cable system.

The operator will be required to work to procedures, and follow plans/specifications for what is required.

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.

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

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1	**Plan the work**	1.1	Review the requirements of the work
		1.2	Check required tools and jigs are available at the worksite
		1.3	Check required cable is available at the worksite
		1.4	Check the 12 V installations/appliances have been installed
		1.5	Identify any hazards and the related hazard controls
		1.6	Check the hazard controls are in place and operational
		1.7	Query any items that are different to usual and clarify requirements
2	**Fit the 12 V cable system in accordance with procedures**	2.1	Use relevant hazard controls, including personal protective equipment (PPE)
		2.2	Run cable from supply to installation/appliance
		2.3	Run cable to/from circuit breakers
		2.4	Terminate cable as required
		2.5	Drill holes/make any penetrations required in frame
		2.6	Fix all cables in position as required
		2.7	Complete fitting of cable as required
3	**Finish 12 V cable system fit**	3.1	Check 12 V cable system has been fitted correctly and make any required adjustments
		3.2	Clean up recreational vehicle and work area, leaving it ready for the next job
		3.3	Segregate and handle waste in accordance with procedures
		3.4	Complete any required documentation/records

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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:

- work instructions
- standard operating procedures (SOPs)
- safe work method statements (SWMS)
- temporary instructions
- any similar instructions provided for the smooth running of the plant

Hazards

Hazards include one or more of the following:

- heat, dust or other atmospheric hazards
- electricity
- gas
- equipment failures
- industrial (machinery, equipment and product)
- noise, rotational equipment or vibration
- hazardous products and materials

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- 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:

- equipment/plant/machine malfunction
- variations in process conditions
- variations in materials or contamination of materials
- equipment, tool, die or mould damage
- product faults
- tooling problems

Known solutions are drawn from one or more of the following:

- procedures
- training
- remembered experience

Non-routine problems must be reported according to relevant procedures.

Unit Mapping Information

No equivalent unit

Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=d1287d36-dff4-4e9f-ad2c-9d6270054027

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Assessment Requirements for MSMRV313 Fit 12 V cable systems in a recreational vehicle

Modification History

Release 1 - New unit.

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:

- fit 12 V cable systems on at least three (3) recreational vehicles
- identify hazards and apply relevant hazard controls
- recognise situations requiring action and take the appropriate action
- communicate effectively with team/work group and supervisors.

Knowledge Evidence

Evidence must be provided that demonstrates knowledge of:

- hazards that may arise in the job/work environment
- fitting procedures and the reasons for those procedures
- materials and tools to be used and their correct usage
- checks and adjustments to be made.

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 or other evidence, 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
  - may use industry-based simulation for all or part of the unit particularly where safety, lack of opportunity or significant cost is an issue.

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- 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.
- 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

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MSMRV314 Construct and fit roof to a recreational vehicle

Modification History

Release 1 - New unit.

Application

This unit of competency covers the skills and knowledge required to construct and fit a roof to a recreational vehicle. The work will be carried out in a recreational vehicle manufacturing facility.

This unit of competency covers the preparation for, fitting of, and clean-up after the fitting of the roof.

The operator will be required to work to procedures, and follow plans/specifications for what is required.

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.

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

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1	**Plan the work**	1.1	Review the requirements of the work
		1.2	Check required tools and jigs are available at the worksite
		1.3	Check required materials and components are available at the worksite
		1.4	Identify any hazards and the related hazard controls
		1.5	Check the hazard controls are in place and operational
		1.6	Query any items that are different to usual and clarify requirements
2	**Construct and fit the roof in accordance with procedures**	2.1	Use relevant hazard controls, including personal protective equipment (PPE)
		2.2	Construct and fit roof frame
		2.3	Fix roof to walls
3	**Finish roof fit**	3.1	Check roof has been fitted correctly and make any required adjustments
		3.2	Clean up recreational vehicle and work area, leaving it ready for the next job
		3.3	Segregate and handle waste in accordance with procedures
		3.4	Complete any required documentation/records

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.

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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:

- work instructions
- standard operating procedures (SOPs)
- safe work method statements (SWMS)
- temporary instructions
- any similar instructions provided for the smooth running of the plant

Hazards

Hazards include one or more of the following:

- heat, dust or other atmospheric hazards
- electricity
- gas
- 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
- falls
- other hazards that might arise

Routine problems

Routine problems must be resolved by applying known solutions.

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Routine problems are predictable and include one or more of:

- equipment/plant/machine malfunction
- variations in process conditions
- variations in materials or contamination of materials
- equipment, tool, die or mould damage
- product faults
- tooling 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

No equivalent unit

Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=d1287d36-dff4-4e9f-ad2c-9d6270054027

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Assessment Requirements for MSMRV314 Construct and fit roof to a recreational vehicle

Modification History

Release 1 - New unit.

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:

- construct and fit roofs on at least three (3) recreational vehicles
- identify hazards and apply relevant hazard controls
- recognise situations requiring action and take the appropriate action
- communicate effectively with team/work group and supervisors.

Knowledge Evidence

Evidence must be provided that demonstrates knowledge of:

- hazards that may arise in the job/work environment
- fitting procedures and the reasons for those procedures
- materials and tools to be used and their correct usage
- checks and adjustments to be made.

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 operation
  - will typically include a supervisor/third-party report or other evidence, 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
  - may use industry-based simulation for all or part of the unit particularly where safety, lack of opportunity or significant cost is an issue.

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- 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.
- 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

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MSMRV315 Construct and fit slide out in a recreational vehicle

Modification History

Release 1 - New unit.

Application

This unit of competency covers the skills and knowledge required to construct and fit a slide out in a recreational vehicle. The work will be carried out in a recreational vehicle manufacturing facility.

This unit of competency covers the preparation for, fitting of, and clean-up after the fitting of the slide out.

The operator will be required to work to procedures, and follow plans/specifications for what is required.

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.

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

Pre-requisite Unit

Nil

Competency Field

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 the work**	1.1	Review the requirements of the work

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		1.2	Check required tools and jigs are available at the worksite
		1.3	Check required materials and components are available at the worksite
		1.4	Identify any hazards and the related hazard controls
		1.5	Check the hazard controls are in place and operational
		1.6	Query any items that are different to usual and clarify requirements
2	**Construct and fit the slide out in accordance with procedures**	2.1	Use relevant hazard controls, including personal protective equipment (PPE)
		2.2	Construct and fit slide out frame
		2.3	Fix slide out to walls/chassis
		2.4	Install required seals
		2.5	Complete fitting of slide out as required
3	**Finish slide out fit**	3.1	Check slide out has been fitted correctly and make any required adjustments
		3.2	Clean up recreational vehicle and work area, leaving it ready for the next job
		3.3	Segregate and handle waste in accordance with procedures
		3.4	Complete any required documentation/records

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.

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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:

- work instructions
- standard operating procedures (SOPs)
- safe work method statements (SWMS)
- temporary instructions
- any similar instructions provided for the smooth running of the plant

Hazards

Hazards include one or more of the following:

- heat, dust or other atmospheric hazards
- electricity
- gas
- 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.

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Routine problems are predictable and include one or more of the following:

- equipment/plant/machine malfunction
- variations in process conditions
- variations in materials or contamination of materials
- equipment, tool, die or mould damage
- product faults
- tooling problems

Known solutions are drawn from one or more of the following:

- procedures
- training
- remembered experience

Non-routine problems must be reported according to relevant procedures.

Unit Mapping Information

No equivalent unit

Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=d1287d36-dff4-4e9f-ad2c-9d6270054027

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Assessment Requirements for MSMRV315 Construct and fit slide out in a recreational vehicle

Modification History

Release 1 - New unit.

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:

- construct and fit a slide out on at least three (3) recreational vehicles
- identify hazards and apply relevant hazard controls
- recognise situations requiring action and take the appropriate action
- communicate effectively with team/work group and supervisors.

Knowledge Evidence

Evidence must be provided that demonstrates knowledge of:

- hazards that may arise in the job/work environment
- fitting procedures and the reasons for those procedures
- materials and tools to be used and their correct usage
- checks and adjustments to be made.

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 operation
  - will typically include a supervisor/third-party report or other evidence, 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
  - may use industry-based simulation for all or part of the unit particularly where safety, lack of opportunity or significant cost is an issue.

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- 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.
- 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

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MSMRV316 Fit appliances in a recreational vehicle

Modification History

Release 1 - New unit.

Application

This unit of competency covers the skills and knowledge required to fit appliances in a recreational vehicle. The work will be carried out in a recreational vehicle manufacturing facility.

This unit of competency covers the preparation for, fitting of, and clean-up after the fitting of appliances.

The operator will be required to work to procedures, and follow plans/specifications for what is required.

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.

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

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1	**Plan the work**	1.1	Review the requirements of the work
		1.2	Check required tools and jigs are available at the worksite
		1.3	Check required appliances are available at the worksite
		1.4	Identify any hazards and the related hazard controls
		1.5	Check the hazard controls are in place and operational
		1.6	Query any items that are different to usual and clarify requirements
2	**Fit the appliances in accordance with procedures**	2.1	Use relevant hazard controls, including personal protective equipment (PPE)
		2.2	Place the appliances in the required position
		2.3	Clamp/hold appliances in place as required
		2.4	Drill holes/make any penetrations required
		2.5	Fix appliance to structure as required
		2.6	Complete fitting of appliances as required
3	**Finish appliance installation**	3.1	Check appliance has been fitted correctly and make any required adjustments
		3.2	Clean up recreational vehicle and work area, leaving it ready for the next job
		3.3	Segregate and handle waste in accordance with procedures
		3.4	Complete any required documentation/records

Foundation Skills

This section describes those language, literacy, numeracy and employment skills that are essential to performance.

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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:

- work instructions
- standard operating procedures (SOPs)
- safe work method statements (SWMS)
- temporary instructions
- any similar instructions provided for the smooth running of the plant

Hazards

Hazards include one or more of the following:

- heat, dust or other atmospheric hazards
- electricity
- gas
- 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

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Routine problems

Routine problems must be resolved by applying known solutions.

Routine problems are predictable and include one or more of the following:

- equipment/plant/machine malfunction
- variations in process conditions
- variations in materials or contamination of materials
- equipment, tool, die or mould damage
- product faults
- tooling problems

Known solutions are drawn from one or more of the following:

- procedures
- training
- remembered experience

Non-routine problems must be reported according to relevant procedures.

Unit Mapping Information

No equivalent unit

Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=d1287d36-dff4-4e9f-ad2c-9d6270054027

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Assessment Requirements for MSMRV316 Fit appliances in a recreational vehicle

Modification History

Release 1 - New unit.

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:

- fit appliances in at least three (3) recreational vehicles
- identify hazards and apply relevant hazard controls
- recognise situations requiring action and take the appropriate action
- communicate effectively with team/work group and supervisors.

Knowledge Evidence

Must provide evidence that demonstrates knowledge relevant to their job sufficient to operate under routine supervision and to solve routine problems, including:

- hazards that may arise in the job/work environment
- fitting procedures and the reasons for those procedures
- materials and tools to be used and their correct usage
- checks and adjustments to be made.

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 operation
  - will typically include a supervisor (third party) report or other evidence, 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
  - may use industry-based simulation for all or part of the unit particularly where safety, lack of opportunity or significant cost is an issue.

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- 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 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.
- 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.

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MSMRV317 Install solar equipment on a recreational vehicle

Modification History

Release 1 - New unit.

Application

This unit of competency covers the skills and knowledge required to install, program and test solar equipment on a recreational vehicle. The work will be carried out in a recreational vehicle manufacturing facility.

This unit of competency covers the preparation for, fitting of, and clean-up after the fitting of the solar equipment.

The operator will be required to work to procedures, and follow plans/specifications for what is required.

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.

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

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1	**Plan the work**	1.1	Review the requirements of the work
		1.2	Check required tools and jigs are available at the worksite
		1.3	Check required equipment and components are available at the worksite
		1.4	Identify any hazards and the related hazard controls
		1.5	Check the hazard controls are in place and operational
		1.6	Query any items that are different to usual and clarify requirements
2	**Install the equipment in accordance with procedures**	2.1	Use relevant hazard controls, including personal protective equipment (PPE)
		2.2	Place the equipment in the required position
		2.3	Clamp/hold equipment in place as required
		2.4	Drill holes/make any penetrations required
		2.5	Fix equipment to structure as required
		2.6	Complete fitting of equipment as required
3	**Program and test solar equipment in accordance with procedures**	3.1	Identify programs and tests required
		3.2	Program the equipment to meet customer requirements following manufacturer directions
		3.3	Run required tests and record results as required
		3.4	Make adjustment in response to test results
4	**Finish solar equipment installation**	4.1	Check equipment has been fitted correctly and make any required adjustments
		4.2	Clean up recreational vehicle and work area, leaving it ready for the next job
		4.3	Segregate and handle waste in accordance with

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procedures

4.4 Complete any required documentation/records

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:

- work instructions
- standard operating procedures (SOPs)
- safe work method statements (SWMS)
- temporary instructions
- any similar instructions provided for the smooth running of the plant

Hazards

Hazards include one or more of the following:

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- heat, dust or other atmospheric hazards
- electricity
- gas
- 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:

- equipment/plant/machine malfunction
- variations in process conditions
- variations in materials or contamination of materials
- equipment, tool, die or mould damage
- product faults
- tooling problems

Known solutions are drawn from one or more of the following:

- procedures
- training
- remembered experience

Non-routine problems must be reported according to relevant procedures.

Unit Mapping Information

No equivalent unit

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Links

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Assessment Requirements for MSMRV317 Install solar equipment on a recreational vehicle

Modification History

Release 1 - New unit.

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:

- install solar equipment on at least three (3) recreational vehicles
- identify hazards and apply relevant hazard controls
- recognise situations requiring action and take the appropriate action
- communicate effectively with team/work group and supervisors.

Knowledge Evidence

Evidence must be provided that demonstrates knowledge of:

- hazards that may arise in the job/work environment
- fitting procedures and the reasons for those procedures
- materials and tools to be used and their correct usage
- checks and adjustments to be made.

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 operation
  - will typically include a supervisor/third-party report or other evidence, 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
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MSMRV318 Fit cladding to a recreational vehicle

Modification History

Release 1 - New unit.

Application

This unit of competency covers the skills and knowledge required to fit side cladding and roof skin to a recreational vehicle. The work will be carried out in a recreational vehicle manufacturing facility.

This unit of competency covers the preparation for, fitting of, and clean-up after the fitting of cladding and roof skin.

The operator will be required to work to procedures, and follow plans/specifications for what is required.

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.

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

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1	**Plan the work**	1.1	Review the requirements of the work
		1.2	Check required tools and jigs are available at the worksite
		1.3	Check required materials and components are available at the worksite
		1.4	Identify any hazards and the related hazard controls
		1.5	Check the hazard controls are in place and operational
		1.6	Query any items that are different to usual and clarify requirements
2	**Fit the side frame cladding in accordance with procedures**	2.1	Use relevant hazard controls, including personal protective equipment (PPE)
		2.2	Place the cladding in the required position
		2.3	Clamp/hold cladding in place as required
		2.4	Drill holes/make any penetrations required
		2.5	Fix cladding to frame as required
		2.6	Trim cladding as required
		2.7	Complete fitting of side frame cladding as required
3	**Fit the roof skin in accordance with procedures**	3.1	Use relevant hazard controls, including PPE
		3.2	Place the skin in the required position
		3.3	Clamp/hold skin in place as required
		3.4	Drill holes/make any penetrations required
		3.5	Fix skin to frame as required
		3.6	Trim skin as required
		3.7	Complete fitting of roof skin as required

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4	**Finish fitting the cladding and roof skin**	4.1	Check cladding and roof skin has been fitted correctly and make any required adjustments
		4.2	Clean up recreational vehicle and work area, leaving it ready for the next job
		4.3	Segregate and handle waste in accordance with procedures
		4.4	Complete any required documentation/records

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:

- work instructions
- standard operating procedures (SOPs)

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- safe work method statements (SWMS)
- temporary instructions
- any similar instructions provided for the smooth running of the plant

Hazards

Hazards include one or more of the following:

- heat, dust or other atmospheric hazards
- electricity
- gas
- 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:

- equipment/plant/machine malfunction
- variations in process conditions
- variations in materials or contamination of materials
- equipment, tool, die or mould damage
- product faults
- tooling problems

Known solutions are drawn from one or more of the following:

- procedures
- training
- remembered experience

Non-routine problems must be reported according to relevant procedures.

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Unit Mapping Information

No equivalent unit

Links

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Assessment Requirements for MSMRV318 Fit cladding to a recreational vehicle

Modification History

Release 1 - New unit.

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:

- fit cladding and roof skin to at least three (3) recreational vehicles
- identify hazards and apply relevant hazard controls
- recognise situations requiring action and take the appropriate action
- communicate effectively with team/work group and supervisors.

Knowledge Evidence

Evidence must be provided that demonstrates knowledge of:

- hazards that may arise in the job/work environment
- fitting procedures and the reasons for those procedures
- materials and tools to be used and their correct usage
- checks and adjustments to be made.

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 operation
  - will typically include a supervisor/third-party report or other evidence, 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
  - may use industry-based simulation for all or part of the unit particularly where safety, lack of opportunity or significant cost is an issue.

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- 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.
- 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.

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MSMRV319 Fit front and rear moulds to a recreational vehicle

Modification History

Release 1 - New unit.

Application

This unit of competency covers the skills and knowledge required to fit front and rear moulds, such as fibre-reinforced plastic, ABS or cladding to a recreational vehicle. The work will be carried out in a recreational vehicle manufacturing facility.

This unit of competency covers the preparation for, fitting of, and clean-up after the fitting of the moulds.

The operator will be required to work to procedures, and follow plans/specifications for what is required.

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.

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

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1	**Plan the work**	1.1	Review the requirements of the work
		1.2	Check required tools and jigs are available at the worksite
		1.3	Check required materials and components are available at the worksite
		1.4	Identify any hazards and the related hazard controls
		1.5	Check the hazard controls are in place and operational
		1.6	Query any items that are different to usual and clarify requirements
2	**Fit the front and rear moulds in accordance with procedures**	2.1	Use relevant hazard controls, including personal protective equipment (PPE)
		2.2	Place the moulds in the required position
		2.3	Clamp/hold moulds in place as required
		2.4	Drill holes/make any penetrations required
		2.5	Fix moulds to frame as required
		2.6	Trim moulds as required
		2.7	Complete fitting of moulds as required
3	**Finish fitting the moulds**	3.1	Check moulds have been fitted correctly and make any required adjustments
		3.2	Clean up recreational vehicle and work area, leaving it ready for the next job
		3.3	Segregate and handle waste in accordance with procedures
		3.4	Complete any required documentation/records

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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:

- work instructions
- standard operating procedures (SOPs)
- safe work method statements (SWMS)
- temporary instructions
- any similar instructions provided for the smooth running of the plant

Hazards

Hazards include one or more of the following:

- heat, dust or other atmospheric hazards
- electricity
- gas
- equipment failures
- industrial (machinery, equipment and product)
- noise, rotational equipment or vibration

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- 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:

- equipment/plant/machine malfunction
- variations in process conditions
- variations in materials or contamination of materials
- equipment, tool, die or mould damage
- product faults
- tooling problems

Known solutions are drawn from one or more of the following:

- procedures
- training
- remembered experience

Non-routine problems must be reported according to relevant procedures.

Unit Mapping Information

No equivalent unit

Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=d1287d36-dff4-4e9f-ad2c-9d6270054027

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Assessment Requirements for MSMRV319 Fit front and rear moulds to a recreational vehicle

Modification History

Release 1 - New unit.

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:

- fit moulds on at least three (3) recreational vehicles
- identify hazards and apply relevant hazard controls
- recognise situations requiring action and take the appropriate action
- communicate effectively with team/work group and supervisors.

Knowledge Evidence

Evidence must be provided that demonstrates knowledge of:

- hazards that may arise in the job/work environment
- fitting procedures and the reasons for those procedures
- materials and tools to be used and their correct usage
- checks and adjustments to be made.

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 operation
  - will typically include a supervisor/third-party report or other evidence, 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
  - may use industry-based simulation for all or part of the unit particularly where safety, lack of opportunity or significant cost is an issue.

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- 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.
- 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

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MSMRV320 Fit windows and doors to a recreational vehicle

Modification History

Release 1 - New unit.

Application

This unit of competency covers the skills and knowledge required to fit windows and doors to a recreational vehicle. The work will be carried out in a recreational vehicle manufacturing facility.

This unit of competency covers the preparation for, fitting of, and clean-up after the fitting of windows and doors.

The operator will be required to work to procedures, and follow plans/specifications for what is required.

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.

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

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1	**Plan the work**	1.1	Review the requirements of the work
		1.2	Check required tools and jigs are available at the worksite
		1.3	Check required materials and components are available at the worksite
		1.4	Identify any hazards and the related hazard controls
		1.5	Check the hazard controls are in place and operational
		1.6	Query any items that are different to usual and clarify requirements
2	**Fit the windows and doors in accordance with procedures**	2.1	Use relevant hazard controls, including personal protective equipment (PPE)
		2.2	Place the window/door in the required position
		2.3	Clamp/hold window/door in place as required
		2.4	Drill holes/make any penetrations required
		2.5	Fix window/door to frame as required
		2.6	Trim as required
		2.7	Complete fitting of window/door as required
3	**Fit the window and door seals in accordance with procedures**	3.1	Use relevant hazard controls, including PPE
		3.2	Place seals in the required position
		3.3	Clamp/hold seals in place as required
		3.4	Drill holes/make any penetrations required
		3.5	Fix seals as required
		3.6	Trim seals as required
		3.7	Complete fitting of seals as required

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4	**Finish fitting the windows and doors**	4.1	Check windows and doors have been fitted correctly and make any required adjustments
		4.2	Clean up recreational vehicle and work area, leaving it ready for the next job
		4.3	Segregate and handle waste in accordance with procedures
		4.4	Complete any required documentation/records

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:

- work instructions
- standard operating procedures (SOPs)

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- safe work method statements (SWMS)
- temporary instructions
- any similar instructions provided for the smooth running of the plant

Hazards

Hazards include one or more of the following:

- heat, dust or other atmospheric hazards
- electricity
- gas
- 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:

- equipment/plant/machine malfunction
- variations in process conditions
- variations in materials or contamination of materials
- equipment, tool, die or mould damage
- product faults
- tooling problems

Known solutions are drawn from one or more of the following:

- procedures
- training
- remembered experience

Non-routine problems must be reported according to relevant procedures.

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Unit Mapping Information

No equivalent unit

Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=d1287d36-dff4-4e9f-ad2c-9d6270054027

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Assessment Requirements for MSMRV320 Fit windows and doors to a recreational vehicle

Modification History

Release 1 - New unit.

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:

- fit windows and doors to at least three (3) recreational vehicles
- identify hazards and apply relevant hazard controls
- recognise situations requiring action and take the appropriate action
- communicate effectively with team/work group and supervisors.

Knowledge Evidence

Evidence must be provided that demonstrates knowledge of:

- hazards that may arise in the job/work environment
- fitting procedures and the reasons for those procedures
- materials and tools to be used and their correct usage
- checks and adjustments to be made.

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 operation
  - will typically include a supervisor/third-party report or other evidence, 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
  - may use industry-based simulation for all or part of the unit particularly where safety, lack of opportunity or significant cost is an issue.

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- 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.
- 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

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MSMRV321 Fit required external items to a recreational vehicle

Modification History

Release 1 - New unit.

Application

This unit of competency covers the skills and knowledge required to fit external items, such as corner mouldings, trunk doors, wheel spats, picnic tables and awnings, to a recreational vehicle. The work will be carried out in a recreational vehicle manufacturing facility.

This unit of competency covers the preparation for, fitting of, and clean-up after the fitting of external items.

The operator will be required to work to procedures, and follow plans/specifications for what is required.

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.

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

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1	**Plan the work**	1.1	Review the requirements of the work
		1.2	Check required tools and jigs are available at the worksite
		1.3	Check required materials and components are available at the worksite
		1.4	Identify any hazards and the related hazard controls
		1.5	Check the hazard controls are in place and operational
		1.6	Query any items that are different to usual and clarify requirements
2	**Fit the external items in accordance with procedures**	2.1	Use relevant hazard controls, including personal protective equipment (PPE)
		2.2	Place the item in the required position
		2.3	Clamp/hold item in place as required
		2.4	Drill holes/make any penetrations required
		2.5	Fix item as required
		2.6	Trim as required
		2.7	Complete fitting of items as required
3	**Fit the seals in accordance with procedures**	3.1	Use relevant hazard controls, including PPE
		3.2	Place seals in the required position
		3.3	Clamp/hold seals in place as required
		3.4	Drill holes/make any penetrations required
		3.5	Fix seal as required
		3.6	Trim seal as required
		3.7	Complete fitting of seal as required

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4	**Finish fitting the external items**	4.1	Check items have been fitted correctly and make any required adjustments
		4.2	Clean up recreational vehicle and work area, leaving it ready for the next job
		4.3	Segregate and handle waste in accordance with procedures
		4.4	Complete any required documentation/records

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:

- work instructions
- standard operating procedures (SOPs)

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- safe work method statements (SWMS)
- temporary instructions
- any similar instructions provided for the smooth running of the plant

Hazards

Hazards include one or more of the following:

- heat, dust or other atmospheric hazards
- electricity
- gas
- 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:

- equipment/plant/machine malfunction
- variations in process conditions
- variations in materials or contamination of materials
- equipment, tool, die or mould damage
- product faults
- tooling problems

Known solutions are drawn from one or more of the following:

- procedures
- training
- remembered experience

Non-routine problems must be reported according to relevant procedures.

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Unit Mapping Information

No equivalent unit

Links

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Assessment Requirements for MSMRV321 Fit required external items to a recreational vehicle

Modification History

Release 1 - New unit.

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:

- fit external items and seals on at least three (3) recreational vehicles
- identify hazards and apply relevant hazard controls
- recognise situations requiring action and take the appropriate action
- communicate effectively with team/work group and supervisors.

Knowledge Evidence

Evidence must be provided that demonstrates knowledge of:

- hazards that may arise in the job/work environment
- fitting procedures and the reasons for those procedures
- materials and tools to be used and their correct usage
- checks and adjustments to be made.

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 operation
  - will typically include a supervisor/third-party report or other evidence, 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
  - may use industry-based simulation for all or part of the unit particularly where safety, lack of opportunity or significant cost is an issue.

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- 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.
- 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

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MSMRV322 Fit required external electrical components to a recreational vehicle

Modification History

Release 1 - New unit.

Application

This unit of competency covers the skills and knowledge required to fit external electrical components, such as power inlet/outlet, speakers, antenna and side/marker lights, to a recreational vehicle. The work will be carried out in a recreational vehicle manufacturing facility.

This unit of competency covers the preparation for, fitting of, and clean-up after the fitting of external electrical components.

The operator will be required to work to procedures, and follow plans/specifications for what is required.

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.

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 Performance criteria describe the performance needed to

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essential outcomes		demonstrate achievement of the element	
1	**Plan the work**	1.1	Review the requirements of the work
		1.2	Check required tools and jigs are available at the worksite
		1.3	Check required materials and components are available at the worksite
		1.4	Identify any hazards and the related hazard controls
		1.5	Check the hazard controls are in place and operational
		1.6	Query any items that are different to usual and clarify requirements
2	**Fit the external electrical components in accordance with procedures**	2.1	Use relevant hazard controls, including personal protective equipment (PPE)
		2.2	Place the electrical component in the required position
		2.3	Clamp/hold electrical component in place as required
		2.4	Drill holes/make any penetrations required
		2.5	Fix electrical component as required
		2.6	Trim as required
		2.7	Complete fitting of electrical component as required
3	**Finish fitting the external electrical components**	3.1	Check electrical components have been fitted correctly and make any required adjustments
		3.2	Clean up recreational vehicle and work area, leaving it ready for the next job
		3.3	Segregate and handle waste in accordance with procedures
		3.4	Complete any required documentation/records

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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:

- work instructions
- standard operating procedures (SOPs)
- safe work method statements (SWMS)
- temporary instructions
- any similar instructions provided for the smooth running of the plant

Hazards

Hazards include one or more of the following:

- heat, dust or other atmospheric hazards
- electricity
- gas
- equipment failures
- industrial (machinery, equipment and product)
- noise, rotational equipment or vibration

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- 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:

- equipment/plant/machine malfunction
- variations in process conditions
- variations in materials or contamination of materials
- equipment, tool, die or mould damage
- product faults
- tooling problems

Known solutions are drawn from one or more of the following:

- procedures
- training
- remembered experience

Non-routine problems must be reported according to relevant procedures.

Unit Mapping Information

No equivalent unit

Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=d1287d36-dff4-4e9f-ad2c-9d6270054027

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Assessment Requirements for MSMRV322 Fit required external electrical components to a recreational vehicle

Modification History

Release 1 - New unit.

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:

- fit external electrical components to at least (3) three recreational vehicles
- identify hazards and apply relevant hazard controls
- recognise situations requiring action and take the appropriate action
- communicate effectively with team/work group and supervisors.

Knowledge Evidence

Evidence must be provided that demonstrates knowledge of:

- hazards that may arise in the job/work environment
- fitting procedures and the reasons for those procedures
- materials and tools to be used and their correct usage
- checks and adjustments to be made.

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 operation
  - will typically include a supervisor/third-party report or other evidence, 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
  - may use industry-based simulation for all or part of the unit particularly where safety, lack of opportunity or significant cost is an issue.

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- 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.

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MSMRV323 Fit required internal items to a recreational vehicle

Modification History

Release 1 - New unit.

Application

This unit of competency covers the skills and knowledge required to fit internal items, such as doors (sliding/concertina), bunks, ladders, rails and hatch surrounds, to a recreational vehicle. The work will be carried out in a recreational vehicle manufacturing facility.

This unit of competency covers the preparation for, fitting of, and clean-up after the fitting of internal items.

The operator will be required to work to procedures, and follow plans/specifications for what is required.

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.

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

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1	**Plan the work**	1.1	Review the requirements of the work
		1.2	Check required tools and jigs are available at the worksite
		1.3	Check required materials and components are available at the worksite
		1.4	Identify any hazards and the related hazard controls
		1.5	Check the hazard controls are in place and operational
		1.6	Query any items that are different to usual and clarify requirements
2	**Fit the internal items in accordance with procedures**	2.1	Use relevant hazard controls, including personal protective equipment (PPE)
		2.2	Place the internal items in the required position
		2.3	Clamp/hold internal items in place as required
		2.4	Drill holes/make any penetrations required
		2.5	Fix internal items as required
		2.6	Trim as required
		2.7	Complete fitting of internal items as required
3	**Finish fitting the internal items**	3.1	Check internal items have been fitted correctly and make any required adjustments
		3.2	Clean up recreational vehicle and work area, leaving it ready for the next job
		3.3	Segregate and handle waste in accordance with procedures
		3.4	Complete any required documentation/records

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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:

- work instructions
- standard operating procedures (SOPs)
- safe work method statements (SWMS)
- temporary instructions
- any similar instructions provided for the smooth running of the plant

Hazards

Hazards include one or more of the following:

- heat, dust or other atmospheric hazards
- electricity
- gas
- equipment failures
- industrial - machinery, equipment and product
- noise, rotational equipment or vibration

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- 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:

- equipment/plant/machine malfunction
- variations in process conditions
- variations in materials or contamination of materials
- equipment, tool, die or mould damage
- product faults
- tooling problems

Known solutions are drawn from one or more of the following:

- procedures
- training
- remembered experience

Non-routine problems must be reported according to relevant procedures.

Unit Mapping Information

No equivalent unit

Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=d1287d36-dff4-4e9f-ad2c-9d6270054027

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Assessment Requirements for MSMRV323 Fit required internal items to a recreational vehicle

Modification History

Release 1 - New unit.

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:

- fit internal items in at least three (3) recreational vehicles
- identify hazards and apply relevant hazard controls
- recognise situations requiring action and take the appropriate action
- communicate effectively with team/work group and supervisors.

Knowledge Evidence

Evidence must be provided that demonstrates knowledge of:

- hazards that may arise in the job/work environment
- fitting procedures and the reasons for those procedures
- materials and tools to be used and their correct usage
- checks and adjustments to be made.

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 operation
  - will typically include a supervisor/third-party report or other evidence, 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
  - may use industry-based simulation for all or part of the unit particularly where safety, lack of opportunity or significant cost is an issue.

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- 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.
- 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

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MSMRV324 Conduct final quality inspection for a recreational vehicle

Modification History

Release 1 - New unit.

Application

This unit of competency covers the skills and knowledge required to conduct the final quality inspection of a recreational vehicle. The work will be carried out in a recreational vehicle manufacturing facility.

This unit of competency covers the preparation for, inspection of, and making any required adjustments to a recreational vehicle.

The operator will be required to work to procedures, and follow plans/specifications for what is required.

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.

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

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1	**Plan the work**	1.1	Review the inclusions and finish required of the recreational vehicle
		1.2	Check all work has been completed
		1.3	Check any required inspection and adjustment tools are available at the worksite
		1.4	Identify any hazards and the related hazard controls
		1.5	Check that hazard controls are in place and operational
		1.6	Query any items that are different to usual and clarify requirements
2	**Inspect the recreational vehicle in accordance with procedures**	2.1	Test 240 V circuits
		2.2	Test 12 V circuits
		2.3	Test functionality of all required appliances
		2.4	Arrange for repair/replacement of any items which do not operate as specified
		2.5	Check all opening/closing items
		2.6	Check all seals
		2.7	Make any required adjustments
3	**Finish the final inspection**	3.1	Inspect the finished recreational vehicle for cleanliness and presentation
		3.2	Take any required action to ensure it meets requirements
		3.3	Complete any required documentation/records

Foundation Skills

This section describes those language, literacy, numeracy and employment skills that are essential to performance.

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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:

- work instructions
- standard operating procedures (SOPs)
- safe work method statements (SWMS)
- temporary instructions
- any similar instructions provided for the smooth running of the plant

Hazards

Hazards include one or more of the following:

- heat, dust or other atmospheric hazards
- electricity
- gas
- 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

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- 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:

- equipment/plant/machine malfunction
- variations in process conditions
- variations in materials or contamination of materials
- equipment, tool, die or mould damage
- product faults
- tooling problems

Known solutions are drawn from one or more of the following:

- procedures
- training
- remembered experience

Non-routine problems must be reported according to relevant procedures.

Unit Mapping Information

No equivalent unit

Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=d1287d36-dff4-4e9f-ad2c-9d6270054027

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Assessment Requirements for MSMRV324 Conduct final quality inspection for a recreational vehicle

Modification History

Release 1 - New unit.

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:

- conduct final quality inspections for at least three (3) recreational vehicles
- identify hazards and apply relevant hazard controls
- recognise situations requiring action and take the appropriate action
- communicate effectively with team/work group and supervisors.

Knowledge Evidence

Evidence must be provided that demonstrates knowledge of:

- hazards that may arise in the job/work environment
- inspection procedures and the reasons for those procedures
- materials and tools to be used and their correct usage
- checks and adjustments to be made.

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 operation
  - will typically include a supervisor/third-party report or other evidence, 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
  - may use industry-based simulation for all or part of the unit particularly where safety, lack of opportunity or significant cost is an issue.

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- 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.
- 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

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MSMRV325 Fabricate a chassis and suspension for a recreational vehicle

Modification History

Release 1 - New unit.

Application

This unit of competency covers the skills and knowledge required to fabricate a recreational vehicle chassis and assemble a suspension to it. The work will be carried out in a recreational vehicle manufacturing facility.

This unit of competency covers the preparation for, fabrication and assembly of a recreational vehicle chassis and suspension.

The operator will be required to work to procedures, and follow plans/specifications for what is required.

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.

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

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1	**Plan the work**	1.1	Review the requirements of the work
		1.2	Check required tools and jigs are available at the worksite
		1.3	Check required materials and components are available at the worksite
		1.4	Identify any hazards and the related hazard controls
		1.5	Check the hazard controls are in place and operational
		1.6	Query any items that are different to usual and clarify requirements
2	**Fabricate the chassis in accordance with procedures**	2.1	Use relevant hazard controls, including personal protective equipment (PPE)
		2.2	Mark out chassis material as required
		2.3	Cut chassis components to specification
		2.4	Assemble chassis components in jig or as required
		2.5	Weld chassis components as specified
		2.6	Check chassis alignment and adjust if required
		2.7	Apply any protective coating required as part of fabrication
3	**Assemble suspension to chassis in accordance with procedures**	3.1	Use relevant hazard controls, including PPE
		3.2	Assemble suspension components to chassis
		3.3	Adjust suspension component as required
		3.4	Fix suspension components to chassis
		3.5	Complete suspension/chassis system as required
4	**Finish the**	4.1	Check chassis and suspension are correct and make any

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suspension and chassis system		required adjustments
	4.2	Clean up chassis and suspension system and work area, leaving it ready for the next job
	4.3	Ensure any items which may still be hot are treated appropriately
	4.4	Segregate and handle waste in accordance with procedures
	4.5	Complete any required documentation/records

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:

- work instructions

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- standard operating procedures (SOPs)
- safe work method statements (SWMS)
- temporary instructions
- any similar instructions provided for the smooth running of the plant

Hazards

Hazards include one or more of the following:

- heat, dust or other atmospheric hazards
- electricity
- gas
- 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:

- equipment/plant/machine malfunction
- variations in process conditions
- variations in materials or contamination of materials
- equipment, tool, die or mould damage
- product faults
- tooling problems

Known solutions are drawn from one or more of the following:

- procedures
- training
- remembered experience

Non-routine problems must be reported according to relevant procedures.

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Unit Mapping Information

No equivalent unit

Links

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Assessment Requirements for MSMRV325 Fabricate a chassis and suspension for a recreational vehicle

Modification History

Release 1 - New unit.

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:

- fabricate at least three (3) recreational vehicle chassis and assemble the suspension on the chassis
- identify hazards and apply relevant hazard controls
- recognise situations requiring action and take the appropriate action
- communicate effectively with team/work group and supervisors.

Knowledge Evidence

Evidence must be provided that demonstrates knowledge of:

- hazards that may arise in the job/work environment
- fitting procedures and the reasons for those procedures
- materials and tools to be used and their correct usage
- checks and adjustments to be made.

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 operation
  - will typically include a supervisor/third-party report or other evidence, 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
  - may use industry-based simulation for all or part of the unit particularly where safety, lack of opportunity or significant cost is an issue.

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- 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.
- 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

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MSMRV350 Remove and replace a recreational vehicle roof

Modification History

Release 1 - New unit.

Application

This unit of competency covers the skills and knowledge required to remove and replace the fixed roof of a recreational vehicle. The same roof may be replaced, or the removed roof may be replaced with a different roof. The work will be carried out in a recreational vehicle service and repair facility.

This unit of competency covers the preparation for, removal of, replacement of, and clean-up after the removal and replacement of a roof.

The operator will be required to work to procedures, and follow plans/specifications, insurance requirements and customer needs.

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.

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

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1	**Plan the work**	1.1	Review the requirements of the work, including insurance requirements and customer needs
		1.2	Examine roof and determine what needs to be done and how to do it
		1.3	Check required tools and jigs are available at the worksite
		1.4	Check required materials and components are available at the worksite
		1.5	Identify any hazards and the related hazard controls
		1.6	Check the hazard controls are in place and operational
		1.7	Query any items which are different to usual and clarify requirements
2	**Remove roof/skin in accordance with devised procedures**	2.1	Use relevant hazard controls, including personal protective equipment (PPE)
		2.2	Remove roof/skin maximising the potential for reuse
		2.3	Segregate and handle waste in accordance with procedures
		2.4	Temporarily store roof/skin and components which are to be reused
3	**Refurbish roof frame as required**	3.1	Use relevant hazard controls, including PPE
		3.2	Examine exposed roof frame
		3.3	Identify any additional damage revealed and decide how it can be made good
		3.4	Negotiate with customer over any changes in job scope and cost
		3.5	Make good/replace roof frame as required
		3.6	Ensure roof frame is fixed to wall/frame as appropriate

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4	**Replace roof/skin in accordance with devised procedures**	4.1	Use relevant hazard controls, including PPE
		4.2	Replace roof/skin in accordance with the devised procedure
		4.3	Trim as required
		4.4	Ensure roof/skin is attached as required
		4.5	Ensure roof seals as required
5	**Finish removal and replacement of roof**	5.1	Check roof has been refitted correctly and make any required adjustments
		5.2	Clean up recreational vehicle and make ready for hand back to customer
		5.3	Clean up work area, leaving it ready for the next job
		5.4	Segregate and handle waste in accordance with procedures
		5.5	Complete any required documentation/records

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:

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- 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:

- work instructions
- standard operating procedures (SOPs)
- safe work method statements (SWMS)
- temporary instructions
- any similar instructions provided for the smooth running of the plant

Hazards

Hazards include one or more of the following:

- heat, dust or other atmospheric hazards
- electricity
- gas
- 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
- falls
- 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:

- equipment/plant/machine malfunction
- variations in process conditions
- variations in materials or contamination of materials
- equipment, tool, die or mould damage
- product faults

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- tooling problems

Known solutions are drawn from one or more of the following:

- procedures
- training
- remembered experience

Non-routine problems must be reported according to relevant procedures.

Unit Mapping Information

No equivalent unit

Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=d1287d36-dff4-4e9f-ad2c-9d6270054027

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Assessment Requirements for MSMRV350 Remove and replace a recreational vehicle roof

Modification History

Release 1 - New unit.

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:

- remove and refit a roof on at least three (3) recreational vehicles
- refurbish the roof frame on at least (3) three recreational vehicles
- interpret requirements and plan work
- identify hazards and apply relevant hazard controls
- recognise situations requiring action and take the appropriate action
- communicate effectively with customers, team/work group and supervisors.

Knowledge Evidence

Evidence must be provided that demonstrates knowledge of:

- hazards that may arise in the job/work environment
- removal, refurbishment and refitting procedures and the reasons for those procedures
- materials and tools to be used and their correct usage
- checks and adjustments to be made.

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 operation
  - will typically include a supervisor/third-party report or other evidence, 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
  - may use industry-based simulation for all or part of the unit particularly where safety, lack of opportunity or significant cost is an issue.

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- 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.
- 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

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MSMRV351 Remove and replace a recreational vehicle floor

Modification History

Release 1 - New unit.

Application

This unit of competency covers the skills and knowledge required to remove and replace the floor of a recreational vehicle. The same floor may be replaced, or the removed floor may be replaced with a different floor. This unit also covers the overlaying of an existing floor. The work will be carried out in a recreational vehicle service and repair facility.

This unit of competency covers the preparation for, removal of, replacement of, and clean-up after the removal and replacement of a floor.

The operator will be required to work to procedures, and follow plans/specifications, insurance requirements and customer needs.

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.

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

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1	**Plan the work**	1.1	Review the requirements of the work, including insurance requirements and customer needs
		1.2	Examine floor and determine what needs to be done and how to do it
		1.3	Check required tools and jigs are available at the worksite
		1.4	Check required materials and components are available at the worksite
		1.5	Identify any hazards and the related hazard controls
		1.6	Check that hazard controls are in place and operational
		1.7	Query any items that are different to usual and clarify requirements
2	**Remove floor in accordance with devised procedures**	2.1	Use relevant hazard controls, including personal protective equipment (PPE)
		2.2	Remove floor maximising the potential for reuse
		2.3	Segregate and handle waste in accordance with procedures
		2.4	Temporarily store floor and components which are to be reused
3	**Replace/overlay floor in accordance with devised procedures**	3.1	Use relevant hazard controls, including PPE
		3.2	Replace or overlay floor in accordance with the devised procedure
		3.3	Trim as required
		3.4	Ensure floor is attached as required
4	**Finish removal and replacement**	4.1	Check floor has been refitted correctly and make any required adjustments

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of floor	4.2	Clean up recreational vehicle and make ready for hand back to customer
	4.3	Clean up work area, leaving it ready for the next job
	4.4	Segregate and handle waste in accordance with procedures
	4.5	Complete any required documentation/records

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.

Applicable legislation, regulations, standards and codes of practice include one or more of the following:

- work health and safety (WHS) legislation, codes of practice and guidance material
- environmental regulations and guidelines
- other relevant government legislation, regulations and codes
- Australian and other standards
- other relevant codes and 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

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form, and include one or more of the following:

- work instructions
- standard operating procedures (SOPs)
- safe work method statements (SWMS)
- temporary instructions
- any similar instructions provided for the smooth running of the plant

Hazards

Hazards include one or more of the following:

- heat, dust or other atmospheric hazards
- electricity
- gas
- 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:

- equipment/plant/machine malfunction
- variations in process conditions
- variations in materials or contamination of materials
- equipment, tool, die or mould damage
- product faults
- tooling problems

Known solutions are drawn from one or more of the following:

- procedures
- training
- remembered experience

Non-routine problems must be reported according to relevant procedures.

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Unit Mapping Information

No equivalent unit

Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=d1287d36-dff4-4e9f-ad2c-9d6270054027

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Assessment Requirements for MSMRV351 Remove and replace a recreational vehicle floor

Modification History

Release 1 - New unit.

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:

- remove and refit floors in at least three (3) recreational vehicles
- interpret requirements and plan work
- identify hazards and apply relevant hazard controls
- recognise situations requiring action and take the appropriate action
- communicate effectively with team/work group and supervisors.

Knowledge Evidence

Evidence must be provided that demonstrates knowledge of:

- hazards that may arise in the job/work environment
- fitting procedures and the reasons for those procedures
- materials and tools to be used and their correct usage
- checks and adjustments to be made.

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 operation
  - will typically include a supervisor/third-party report or other evidence, 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
  - may use industry-based simulation for all or part of the unit particularly where safety, lack of opportunity or significant cost is an issue.

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- 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.
- 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

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MSMRV352 Remove and replace a recreational vehicle sidewall cladding

Modification History

Release 1 - New unit.

Application

This unit of competency covers the skills and knowledge required to remove and replace the side wall cladding of a recreational vehicle. The same cladding may be replaced, or the removed cladding may be replaced with a different cladding. This unit includes the removal and replacement of a single strip of cladding up to an entire sidewall cladding. The work will be carried out in a recreational vehicle service and repair facility.

This unit of competency covers the preparation for, removal of, replacement of, and clean-up after the removal and replacement of a floor.

The operator will be required to work to procedures, and follow plans/specifications, insurance requirements and customer needs.

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.

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 Performance criteria describe the performance needed to

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essential outcomes		demonstrate achievement of the element	
1	**Plan the work**	1.1	Review the requirements of the work, including insurance requirements and customer needs
		1.2	Examine cladding and determine what needs to be done and how to do it
		1.3	Check required tools and jigs are available at the worksite
		1.4	Check required materials and components are available at the worksite
		1.5	Identify any hazards and the related hazard controls
		1.6	Check the hazard controls are in place and operational
		1.7	Query any items which are different to usual and clarify requirements
2	**Remove cladding in accordance with devised procedures**	2.1	Use relevant hazard controls, including personal protective equipment (PPE)
		2.2	Remove cladding maximising the potential for reuse
		2.3	Segregate and handle waste in accordance with procedures
		2.4	Temporarily store cladding and components which are to be reused
3	**Refurbish sidewall frame as required**	3.1	Use relevant hazard controls, including PPE
		3.2	Examine exposed sidewall frame
		3.3	Identify any additional damage revealed and decide how it can be made good
		3.4	Negotiate with customer over any changes in job scope and cost
		3.5	Make good/replace sidewall frame as required

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		3.6	Ensure sidewall frame is fixed to chassis and roof as appropriate
4	**Replace sidewall cladding in accordance with devised procedures**	4.1	Use relevant hazard controls, including PPE
		4.2	Replace sidewall cladding in accordance with the devised procedure
		4.3	Trim as required
		4.4	Ensure cladding is attached as required
5	**Finish removal and replacement of sidewall cladding**	5.1	Check sidewall cladding has been refitted correctly and make any required adjustments
		5.2	Clean up recreational vehicle and make ready for hand back to customer
		5.3	Clean up work area, leaving it ready for the next job
		5.4	Segregate and handle waste in accordance with procedures
		5.5	Complete any required documentation/records

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

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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:

- work instructions
- standard operating procedures (SOPs)
- safe work method statements (SWMS)
- temporary instructions
- any similar instructions provided for the smooth running of the plant

Hazards

Hazards include one or more of the following:

- heat, dust or other atmospheric hazards
- electricity
- gas
- 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:

- equipment/plant/machine malfunction
- variations in process conditions
- variations in materials or contamination of materials
- equipment, tool, die or mould damage

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- product faults
- tooling problems

Known solutions are drawn from one or more of the following:

- procedures
- training
- remembered experience

Non-routine problems must be reported according to relevant procedures.

Unit Mapping Information

No equivalent unit

Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=d1287d36-dff4-4e9f-ad2c-9d6270054027

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Assessment Requirements for MSMRV352 Remove and replace a recreational vehicle sidewall cladding

Modification History

Release 1 - New unit.

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:

- remove and refit sidewall cladding on at least three (3) recreational vehicles
- refurbish the sidewall frame on at least three (3) recreational vehicles
- interpret requirements and plan work
- identify hazards and apply relevant hazard controls
- recognise situations requiring action and take the appropriate action
- communicate effectively with customers, team/work group and supervisors.

Knowledge Evidence

Evidence must be provided that demonstrates knowledge of:

- hazards that may arise in the job/work environment
- fitting procedures and the reasons for those procedures
- materials and tools to be used and their correct usage
- checks and adjustments to be made.

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 operation
  - will typically include a supervisor/third-party report or other evidence, 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
  - may use industry-based simulation for all or part of the unit particularly where safety, lack of opportunity or significant cost is an issue.

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- 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.
- 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

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MSMRV353 Remove and replace a recreational vehicle shower cubicle

Modification History

Release 1 - New unit.

Application

This unit of competency covers the skills and knowledge required to remove and replace the shower cubicle in a recreational vehicle. The same cubicle may be replaced, or the removed cubicle may be replaced with a different cubicle. The work will be carried out in a recreational vehicle service and repair facility.

This unit of competency covers the preparation for, removal of, replacement of, and clean-up after the removal and replacement of a cubicle.

The operator will be required to work to procedures, and follow plans/specifications, insurance requirements and customer needs.

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.

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 Performance criteria describe the performance needed to

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essential outcomes		demonstrate achievement of the element	
1	**Plan the work**	1.1	Review the requirements of the work, including insurance requirements and customer needs
		1.2	Examine cubicle and determine what needs to be done and how to do it
		1.3	Check required tools and jigs are available at the worksite
		1.4	Check required materials and components are available at the worksite
		1.5	Identify any hazards and the related hazard controls
		1.6	Check that hazard controls are in place and operational
		1.7	Query any items that are different to usual and clarify requirements
2	**Remove cubicle in accordance with devised procedures**	2.1	Use relevant hazard controls, including personal protective equipment (PPE)
		2.2	Remove cubicle maximising the potential for reuse
		2.3	Segregate and handle waste in accordance with procedures
		2.4	Temporarily store cubicle and components which are to be reused
3	**Refurbish substructure as required**	3.1	Use relevant hazard controls, including PPE
		3.2	Examine exposed substructure
		3.3	Identify any additional damage revealed and decide how it can be made good
		3.4	Negotiate with customer over any changes in job scope and cost
		3.5	Make good/replace substructure as required

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		3.6	Ensure substructure is fixed as appropriate
4	**Replace cubicle in accordance with devised procedures**	4.1	Use relevant hazard controls, including PPE
		4.2	Replace cubicle in accordance with the devised procedure
		4.3	Trim as required
		4.4	Ensure cubicle is attached as required
		4.5	Seal cubicle as required
5	**Finish removal and replacement of cubicle**	5.1	Check cubicle has been refitted correctly and make any required adjustments
		5.2	Clean up recreational vehicle and make ready for hand back to customer
		5.3	Clean up work area, leaving it ready for the next job
		5.4	Segregate and handle waste in accordance with procedures
		5.5	Complete any required documentation/records

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 The latest version of all legislation, regulations, industry codes of practice

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framework 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:

- work instructions
- standard operating procedures (SOPs)
- safe work method statements (SWMS)
- temporary instructions
- any similar instructions provided for the smooth running of the plant

Hazards Hazards include one or more of the following:

- heat, dust or other atmospheric hazards
- electricity
- gas
- 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:

- equipment/plant/machine malfunction
- variations in process conditions
- variations in materials or contamination of materials
- equipment, tool, die or mould damage

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- product faults
- tooling problems

Known solutions are drawn from one or more of the following:

- procedures
- training
- remembered experience

Non-routine problems must be reported according to relevant procedures.

Unit Mapping Information

No equivalent unit

Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=d1287d36-dff4-4e9f-ad2c-9d6270054027

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Assessment Requirements for MSMRV353 Remove and replace a recreational vehicle shower cubicle

Modification History

Release 1 - New unit.

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:

- remove and refit a shower cubicle in at least three (3) recreational vehicles
- refurbish the substructure in at least three (3) recreational vehicles
- interpret requirements and plan work
- identify hazards and apply relevant hazard controls
- recognise situations requiring action and take the appropriate action
- communicate effectively with customers, team/work group and supervisors.

Knowledge Evidence

Evidence must be provided that demonstrates knowledge of:

- hazards that may arise in the job/work environment
- removal, refurbishment and refitting procedures and the reasons for those procedures
- materials and tools to be used and their correct usage
- checks and adjustments to be made.

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 operation
  - will typically include a supervisor/third-party report or other evidence, 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
  - may use industry-based simulation for all or part of the unit particularly where safety, lack of opportunity or significant cost is an issue.

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- 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.
- 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

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MSMRV354 Remove and replace a recreational vehicle shower walls

Modification History

Release 1 - New unit.

Application

This unit of competency covers the skills and knowledge required to remove and replace the shower walls in a recreational vehicle. The same walls may be replaced, or the removed walls may be replaced with different walls. The work will be carried out in a recreational vehicle service and repair facility.

This unit of competency covers the preparation for, removal of, replacement of, and clean-up after the removal and replacement of shower walls.

The operator will be required to work to procedures, and follow plans/specifications, insurance requirements and customer needs.

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.

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 Performance criteria describe the performance needed to

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essential outcomes		demonstrate achievement of the element	
1	**Plan the work**	1.1	Review the requirements of the work, including insurance requirements and customer needs
		1.2	Examine shower walls and determine what needs to be done and how to do it
		1.3	Check required tools and jigs are available at the worksite
		1.4	Check required materials and components are available at the worksite
		1.5	Identify any hazards and the related hazard controls
		1.6	Check that hazard controls are in place and operational
		1.7	Query any items that are different to usual and clarify requirements
2	**Remove shower walls in accordance with devised procedures**	2.1	Use relevant hazard controls, including personal protective equipment (PPE)
		2.2	Remove shower walls maximising the potential for reuse
		2.3	Segregate and handle waste in accordance with procedures
		2.4	Temporarily store shower walls and components which are to be reused
3	**Refurbish substructure as required**	3.1	Use relevant hazard controls, including PPE
		3.2	Examine exposed substructure
		3.3	Identify any additional damage revealed and decide how it can be made good
		3.4	Negotiate with customer over any changes in job scope and cost
		3.5	Make good/replace substructure as required

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		3.6	Ensure substructure is fixed as appropriate
4	**Replace shower walls in accordance with devised procedures**	4.1	Use relevant hazard controls, including PPE
		4.2	Replace shower walls in accordance with the devised procedure
		4.3	Trim as required
		4.4	Ensure shower walls are attached as required
		4.5	Seal shower walls as required
5	**Finish removal and replacement of shower walls**	5.1	Check shower walls have been refitted correctly and make any required adjustments
		5.2	Clean up recreational vehicle and make ready for hand back to customer
		5.3	Clean up work area, leaving it ready for the next job
		5.4	Segregate and handle waste in accordance with procedures
		5.5	Complete any required documentation/records

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 The latest version of all legislation, regulations, industry codes of practice

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framework 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:

- work instructions
- standard operating procedures (SOPs)
- safe work method statements (SWMS)
- temporary instructions
- any similar instructions provided for the smooth running of the plant

Hazards Hazards include one or more of the following:

- heat, dust or other atmospheric hazards
- electricity
- gas
- 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:

- equipment/plant/machine malfunction
- variations in process conditions
- variations in materials or contamination of materials
- equipment, tool, die or mould damage

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- product faults
- tooling problems

Known solutions are drawn from one or more of the following:

- procedures
- training
- remembered experience

Non-routine problems must be reported according to relevant procedures.

Unit Mapping Information

No equivalent unit

Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=d1287d36-dff4-4e9f-ad2c-9d6270054027

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Assessment Requirements for MSMRV354 Remove and replace a recreational vehicle shower walls

Modification History

Release 1 - New unit.

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:

- remove and refit shower walls in at least three (3) recreational vehicles
- refurbish the substructure in at least three (3) recreational vehicles
- interpret requirements and plan work
- identify hazards and apply relevant hazard controls
- recognise situations requiring action and take the appropriate action
- communicate effectively with customers, team/work group and supervisors.

Knowledge Evidence

Evidence must be provided that demonstrates knowledge of:

- hazards that may arise in the job/work environment
- removal, refurbishment and refitting procedures and the reasons for those procedures
- materials and tools to be used and their correct usage
- checks and adjustments to be made.

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 operation
  - will typically include a supervisor/third-party report or other evidence, 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
  - may use industry-based simulation for all or part of the unit particularly where safety, lack of opportunity or significant cost is an issue.

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- 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.
- 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

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MSMRV355 Remove and replace a camper/pop-top roof

Modification History

Release 1 - New unit.

Application

This unit of competency covers the skills and knowledge required to remove and replace the roof of a camper/pop-top recreational vehicle. This unit also covers the removal and replacement of the associated moving parts, such as catches, fabric (canvas/vinyl) and other ancillary components, but not lifters and gas struts. The same roof/components may be replaced, or the removed roof/components may be replaced with a different roof and/or components. The work will be carried out in a recreational vehicle service and repair facility.

This unit of competency covers the preparation for, removal of, replacement of, and clean-up after the removal and replacement of a roof and its ancillary components.

The operator will be required to work to procedures, and follow plans/specifications, insurance requirements and customer needs.

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.

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 Performance criteria describe the performance needed to

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essential outcomes		demonstrate achievement of the element	
1	**Plan the work**	1.1	Review the requirements of the work, including insurance requirements and customer needs
		1.2	Examine roof and ancillary components and determine what needs to be done and how to do it
		1.3	Check required tools and jigs are available at the worksite
		1.4	Check required materials and components are available at the worksite
		1.5	Identify any hazards and the related hazard controls
		1.6	Check the hazard controls are in place and operational
		1.7	Query any items which are different to usual and clarify requirements
2	**Remove roof in accordance with devised procedures**	2.1	Use relevant hazard controls, including personal protective equipment (PPE)
		2.2	Remove roof maximising the potential for reuse
		2.3	Segregate and handle waste in accordance with procedures
		2.4	Temporarily store roof and components which are to be reused
3	**Remove ancillary components as required**	3.1	Use relevant hazard controls, including PPE
		3.2	Remove ancillary components maximising the potential for reuse
		3.3	Segregate and handle waste in accordance with procedures
		3.4	Temporarily store ancillary components which are to be reused

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4	**Refurbish components as required**	4.1	Use relevant hazard controls, including PPE
		4.2	Examine all removed components and the adjacent parts of the caravan which have been revealed
		4.3	Identify any additional damage revealed and decide how it can be made good
		4.4	Negotiate with customer over any changes in job scope and cost
		4.5	Make good/replace as required
5	**Replace roof and ancillary components in accordance with devised procedures**	5.1	Use relevant hazard controls, including PPE
		5.2	Replace roof and ancillary components in accordance with the devised procedure
		5.3	Trim as required
		5.4	Ensure roof and components are attached as required
		5.5	Ensure roof seals as require
6	**Finish removal and replacement of roof.**	6.1	Check roof has been refitted correctly and make any required adjustments.
		6.2	Clean up recreational vehicle and make ready for hand back to customer
		6.3	Clean up work area, leaving it ready for the next job
		6.4	Segregate and handle waste in accordance with procedures
		6.5	Complete any required documentation/records

Foundation Skills

This section describes those language, literacy, numeracy and employment skills that are essential to performance.

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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:

- work instructions
- standard operating procedures (SOPs)
- safe work method statements (SWMS)
- temporary instructions
- any similar instructions provided for the smooth running of the plant

Hazards

Hazards include one or more of the following:

- heat, dust or other atmospheric hazards
- electricity
- gas
- 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

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Routine problems

Routine problems must be resolved by applying known solutions.

Routine problems are predictable and include one or more of the following:

- equipment/plant/machine malfunction
- variations in process conditions
- variations in materials or contamination of materials
- equipment, tool, die or mould damage
- product faults
- tooling problems

Known solutions are drawn from one or more of the following:

- procedures
- training
- remembered experience

Non-routine problems must be reported according to relevant procedures.

Unit Mapping Information

No equivalent unit

Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=d1287d36-dff4-4e9f-ad2c-9d6270054027

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Assessment Requirements for MSMRV355 Remove and replace a camper/pop-top roof

Modification History

Release 1 - New unit.

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:

- remove and refit camper/pop-top roofs and ancillary components in at least three (3) recreational vehicles
- refurbish the components/substructure in at least three (3) recreational vehicles
- interpret requirements and plan work
- identify hazards and apply relevant hazard controls
- recognise situations requiring action and take the appropriate action
- communicate effectively with customers, team/work group and supervisors.

Knowledge Evidence

Evidence must be provided that demonstrates knowledge of:

- hazards that may arise in the job/work environment
- removal, refurbishment and refitting procedures and the reasons for those procedures
- materials and tools to be used and their correct usage
- checks and adjustments to be made.

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 operation
  - will typically include a supervisor/third-party report or other evidence, 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
  - may use industry-based simulation for all or part of the unit particularly where safety, lack of opportunity or significant cost is an issue.

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- 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.
- 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.

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MSMRV356 Remove and replace gas struts and roof lifting equipment on a recreational vehicle

Modification History

Release 1 - New unit.

Application

This unit of competency covers the skills and knowledge required to remove and replace the roof lifters and gas struts on a recreational vehicle. The same lifters and struts may be replaced, or the removed lifters and struts may be replaced with different lifters and struts. The work will be carried out in a recreational vehicle service and repair facility.

This unit of competency covers the preparation for, removal of, replacement of, and clean-up after the removal and replacement of lifters and struts.

The operator will be required to work to procedures, and follow plans/specifications, insurance requirements and customer needs.

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.

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 Performance criteria describe the performance needed to

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essential outcomes		demonstrate achievement of the element	
1	**Plan the work**	1.1	Review the requirements of the work, including insurance requirements and customer needs
		1.2	Examine roof lifters or gas struts and determine what needs to be done and how to do it
		1.3	Check required tools and jigs are available at the worksite
		1.4	Check required materials and components are available at the worksite
		1.5	Identify any hazards and the related hazard controls
		1.6	Check that hazard controls are in place and operational
		1.7	Query any items that are different to usual and clarify requirements
2	**Remove roof lifting equipment in accordance with devised procedures**	2.1	Use relevant hazard controls, including personal protective equipment (PPE)
		2.2	Remove roof lifting equipment maximising the potential for reuse
		2.3	Segregate and handle waste in accordance with procedures
		2.4	Temporarily store roof lifting equipment which is to be reused
3	**Remove roof gas struts in accordance with devised procedures**	3.1	Use relevant hazard controls, including PPE
		3.2	Remove roof gas struts maximising the potential for reuse
		3.3	Segregate and handle waste in accordance with procedures
		3.4	Temporarily store gas struts which are to be reused

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4	**Refurbish components as required**	4.1	Use relevant hazard controls, including PPE
		4.2	Examine all removed components and the adjacent parts of the caravan which have been revealed
		4.3	Identify any additional damage revealed and decide how it can be made good
		4.4	Negotiate with customer over any changes in job scope and cost
		4.5	Make good/replace as required
5	**Replace roof lifting equipment in accordance with devised procedures**	5.1	Use relevant hazard controls, including PPE
		5.2	Replace roof lifters in accordance with the devised procedure
		5.3	Adjust as required
		5.4	Ensure roof and components are attached as required
		5.5	Ensure roof seals as required
6	**Replace roof gas struts in accordance with devised procedures**	6.1	Use relevant hazard controls, including PPE
		6.2	Replace gas struts in accordance with the devised procedure
		6.3	Adjust as required
		6.4	Ensure roof and components are attached as required
		6.5	Ensure roof seals as required
7	**Finish removal and replacement of roof lifters/gas struts**	7.1	Check roof lifters/struts have been refitted correctly and make any required adjustments
		7.2	Clean up recreational vehicle and make ready for hand back to customer
		7.3	Clean up work area, leaving it ready for the next job
		7.4	Segregate and handle waste in accordance with

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procedures

7.5 Complete any required documentation/records

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:

- work instructions
- standard operating procedures (SOPs)
- safe work method statements (SWMS)
- temporary instructions
- any similar instructions provided for the smooth running of the plant

Hazards

Hazards include one or more of the following:

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- heat, dust or other atmospheric hazards
- electricity
- gas
- 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:

- equipment/plant/machine malfunction
- variations in process conditions
- variations in materials or contamination of materials
- equipment, tool, die or mould damage
- product faults
- tooling problems

Known solutions are drawn from one or more of the following:

- procedures
- training
- remembered experience

Non-routine problems must be reported according to relevant procedures.

Unit Mapping Information

No equivalent unit

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Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=d1287d36-dff4-4e9f-ad2c-9d6270054027

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Assessment Requirements for MSMRV356 Remove and replace gas struts and roof lifting equipment on a recreational vehicle

Modification History

Release 1 - New unit.

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:

- remove and refit gas struts and roof lifting equipment from at least three (3) recreational vehicles
- refurbish the components in at least three (3) recreational vehicles
- interpret requirements and plan work
- identify hazards and apply relevant hazard controls
- recognise situations requiring action and take the appropriate action
- communicate effectively with customers, team/work group and supervisors.

Knowledge Evidence

Evidence must be provided that demonstrates knowledge of:

- hazards that may arise in the job/work environment
- removal, refurbishment and refitting procedures and the reasons for those procedures
- materials and tools to be used and their correct usage
- checks and adjustments to be made.

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 operation
  - will typically include a supervisor/third-party report or other evidence, 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
  - may use industry-based simulation for all or part of the unit particularly where safety, lack of opportunity or significant cost is an issue.

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- 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.
- 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

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MSMRV357 Remove and replace external components of a recreational vehicle

Modification History

Release 1 - New unit.

Application

This unit of competency covers the skills and knowledge required to remove and replace the roof hatches, windows and external doors on a recreational vehicle. The same hatches, windows and doors may be replaced, or the removed hatches, windows and doors may be replaced with different hatches, windows and doors. This unit also covers the resealing of hatches, windows and doors. The work will be carried out in a recreational vehicle service and repair facility.

This unit of competency covers the preparation for, removal of, replacement of, and clean-up after the removal, replacement and resealing of hatches, windows and doors.

The operator will be required to work to procedures, and follow plans/specifications, insurance requirements and customer needs.

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.

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

Pre-requisite Unit

Nil

Competency Field

Operations

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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 the work**	1.1	Review the requirements of the work, including insurance requirements and customer needs
		1.2	Examine hatches, windows and doors, determine what needs to be done and how to do it
		1.3	Check required tools and jigs are available at the worksite
		1.4	Check required materials and components are available at the worksite
		1.5	Identify any hazards and the related hazard controls
		1.6	Check that hazard controls are in place and operational
		1.7	Query any items that are different to usual and clarify requirements
2	**Remove hatches, windows and doors in accordance with devised procedures**	2.1	Use relevant hazard controls, including personal protective equipment (PPE)
		2.2	Remove hatches, windows and doors maximising the potential for reuse
		2.3	Segregate and handle waste in accordance with procedures
		2.4	Temporarily store hatches, windows and doors which are to be reused
3	**Refurbish components as required**	3.1	Use relevant hazard controls, including PPE
		3.2	Examine all removed items and the adjacent parts of the caravan which have been revealed

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		3.3	Identify any additional damage revealed and decide how it can be made good
		3.4	Negotiate with customer over any changes in job scope and cost
		3.5	Make good/replace components as required
4	**Replace hatches, windows and doors in accordance with devised procedures**	4.1	Use relevant hazard controls, including PPE
		4.2	Replace hatches, windows and doors in accordance with the devised procedure
		4.3	Ensure items are attached as required
		4.4	Adjust as required
5	**Reseal hatches, windows and doors in accordance with devised procedures**	5.1	Use relevant hazard controls, including PPE
		5.2	Replace seals/sealing material in accordance with the devised procedure
		5.3	Adjust/trim as required
		5.4	Ensure seals are effective
6	**Finish removal and replacement of hatches, windows and doors**	6.1	Check hatches, windows and doors have been refitted correctly and make any required adjustments
		6.2	Clean up recreational vehicle and make ready for hand back to customer
		6.3	Clean up work area, leaving it ready for the next job
		6.4	Segregate and handle waste in accordance with procedures
		6.5	Complete any required documentation/records

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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:

- work instructions
- standard operating procedures (SOPs)
- safe work method statements (SWMS)
- temporary instructions
- any similar instructions provided for the smooth running of the plant

Hazards

Hazards include one or more of the following:

- heat, dust or other atmospheric hazards
- electricity
- gas
- equipment failures
- industrial (machinery, equipment and product)
- noise, rotational equipment or vibration

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- 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:

- equipment/plant/machine malfunction
- variations in process conditions
- variations in materials or contamination of materials
- equipment, tool, die or mould damage
- product faults
- tooling problems

Known solutions are drawn from one or more of the following:

- procedures
- training
- remembered experience

Non-routine problems must be reported according to relevant procedures.

Unit Mapping Information

No equivalent unit

Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=d1287d36-dff4-4e9f-ad2c-9d6270054027

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Assessment Requirements for MSMRV357 Remove and replace external components of a recreational vehicle

Modification History

Release 1 - New unit.

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:

- remove and refit external components on at least three (3) recreational vehicles
- refurbish the components on at least three (3) recreational vehicles
- interpret requirements and plan work
- identify hazards and apply relevant hazard controls
- recognise situations requiring action and take the appropriate action
- communicate effectively with customers, team/work group and supervisors.

Knowledge Evidence

Evidence must be provided that demonstrates knowledge of:

- hazards that may arise in the job/work environment
- removal, refurbishment and refitting procedures and the reasons for those procedures
- materials and tools to be used and their correct usage
- checks and adjustments to be made.

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 operation
  - will typically include a supervisor/third-party report or other evidence, 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
  - may use industry-based simulation for all or part of the unit particularly where safety, lack of opportunity or significant cost is an issue.

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- 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.
- 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

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MSMRV358 Modify the body of a recreational vehicle

Modification History

Release 1 - New unit.

Application

This unit of competency covers the skills and knowledge required to make body modifications, such as installing additional access doors, drawers and similar modifications, to a recreational vehicle. The work will be carried out in a recreational vehicle service and repair facility.

This unit of competency covers the preparation for, modification of and clean-up after the modification.

The operator will be required to work to procedures, and follow plans/specifications, insurance requirements and customer needs.

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.

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

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1	**Plan the work**	1.1	Review the requirements of the work, including insurance requirements and customer needs
		1.2	Examine recreational vehicle and identify likely problems with the proposed location or nature of the modification
		1.3	Negotiate exact details of proposed modification with customer
		1.4	Confirm what needs to be done and determine how to do it
		1.5	Check required tools and jigs are available at the worksite
		1.6	Check required materials and components are available at the worksite
		1.7	Identify any hazards and the related hazard controls
		1.8	Check that hazard controls are in place and operational
		1.9	Query any items that are different to usual and clarify requirements
2	**Make the required penetration in accordance with devised procedures**	2.1	Use relevant hazard controls, including personal protective equipment (PPE)
		2.2	Remove recreational vehicle components as required maximising the potential for reuse
		2.3	Cut through external cladding, interior panelling and frame as required
		2.4	Segregate and handle waste in accordance with procedures
		2.5	Temporarily store removed components which are to be reused
3	**Refurbish as required**	3.1	Use relevant hazard controls, including PPE
		3.2	Examine all removed items and the adjacent parts of the

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			caravan which have been revealed
		3.3	Identify any damage revealed and decide how it can be made good
		3.4	Negotiate with customer over any changes in job scope and cost
		3.5	Make good/replace as required
4	**Install the required items in accordance with devised procedures**	4.1	Use relevant hazard controls, including PPE
		4.2	Install required items in accordance with the devised procedure
		4.3	Ensure items are attached as required
		4.4	Adjust as required
		4.5	Ensure items function as intended
5	**Seal installed items in accordance with devised procedures**	5.1	Use relevant hazard controls, including PPE
		5.2	Apply seals/sealing material in accordance with the devised procedure
		5.3	Adjust/trim as required
		5.4	Ensure seals are effective
6	**Finish body modifications**	6.1	Check all installed items have been fitted correctly and make any required adjustments
		6.2	Clean up recreational vehicle and make ready for hand back to customer
		6.3	Clean up work area, leaving it ready for the next job
		6.4	Segregate and handle waste in accordance with procedures
		6.5	Complete any required documentation/records

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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:

- work instructions
- standard operating procedures (SOPs)
- safe work method statements (SWMS)
- temporary instructions
- any similar instructions provided for the smooth running of the plant

Hazards

Hazards include one or more of the following:

- heat, dust or other atmospheric hazards
- electricity
- gas
- equipment failures
- industrial (machinery, equipment and product)
- noise, rotational equipment or vibration

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- 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:

- equipment/plant/machine malfunction
- variations in process conditions
- variations in materials or contamination of materials
- equipment, tool, die or mould damage
- product faults
- tooling problems

Known solutions are drawn from one or more of the following:

- procedures
- training
- remembered experience

Non-routine problems must be reported according to relevant procedures.

Unit Mapping Information

No equivalent unit

Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=d1287d36-dff4-4e9f-ad2c-9d6270054027

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Assessment Requirements for MSMRV358 Modify the body of a recreational vehicle

Modification History

Release 1 - New unit.

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:

- complete body modifications to at least three (3) recreational vehicles
- interpret requirements and plan work
- identify hazards and apply relevant hazard controls
- recognise situations requiring action and take the appropriate action
- communicate effectively with customers, team/work group and supervisors.

Knowledge Evidence

Evidence must be provided that demonstrates knowledge of:

- hazards that may arise in the job/work environment
- modification procedures and the reasons for those procedures
- materials and tools to be used and their correct usage
- checks and adjustments to be made.

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 operation
  - will typically include a supervisor/third-party report or other evidence, 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
  - may use industry-based simulation for all or part of the unit particularly where safety, lack of opportunity or significant cost is an issue.

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- 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.
- 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

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MSMRV359 Install additional appliances in a recreational vehicle

Modification History

Release 1 - New unit.

Application

This unit of competency covers the skills and knowledge required to install additional appliances, such as diesel heaters or air conditioning, in a recreational vehicle. The work will be carried out in a recreational vehicle service and repair facility.

This unit of competency covers the preparation for, installation of and clean-up after the installation of the appliance.

The operator will be required to work to procedures, and follow plans/specifications, insurance requirements and customer needs.

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.

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

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1	**Plan the work**	1.1	Review the requirements of the work, including insurance requirements and customer needs
		1.2	Examine manufacturer's recommendations for installation of the appliance
		1.3	Identify likely problems with the proposed location or nature of the installation
		1.4	Negotiate exact details of proposed installation with customer
		1.5	Confirm what needs to be done and determine how to do it
		1.6	Check required tools and jigs are available at the worksite
		1.7	Check required materials and components are available at the worksite
		1.8	Identify any hazards and the related hazard controls
		1.9	Check that hazard controls are in place and operational
		1.10	Query any items that are different to usual and clarify requirements
2	**Prepare to install the appliance in accordance with devised procedures**	2.1	Use relevant hazard controls, including personal protective equipment (PPE)
		2.2	Remove/modify any existing items to make available an appropriate space for the appliance
		2.3	Make penetrations in external cladding, interior panelling and frame as required
		2.4	Make provision for any ventilation requirements
		2.5	Segregate and handle waste in accordance with procedures
		2.6	Temporarily store removed items which are to be reused
3	**Install the**	3.1	Use relevant hazard controls, including PPE

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	required appliance in accordance with devised procedures	3.2	Install required appliance in accordance with the devised procedure and manufacturer's recommendations
		3.3	Ensure appliance is attached as required
		3.4	Run and connect any required piping/ducting/cable
		3.5	Ensure items function as intended
		3.6	Make good any items modified/temporarily removed
4	**Seal any external penetrations made in accordance with devised procedures**	4.1	Use relevant hazard controls, including PPE
		4.2	Apply seals/sealing material in accordance with the devised procedure
		4.3	Adjust/trim as required
		4.4	Ensure seals are effective
5	**Finish appliance installation**	5.1	Check installed appliance has been fitted correctly and make any required adjustments
		5.2	Clean up recreational vehicle and make ready for hand back to customer
		5.3	Clean up work area, leaving it ready for the next job
		5.4	Segregate and handle waste in accordance with procedures
		5.5	Complete any required documentation/records

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.

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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:

- work instructions
- standard operating procedures (SOPs)
- safe work method statements (SWMS)
- temporary instructions
- any similar instructions provided for the smooth running of the plant

Hazards

Hazards include one or more of the following:

- heat, dust or other atmospheric hazards
- electricity
- gas
- 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

Routine problems must be resolved by applying known solutions.

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problems

Routine problems are predictable and include one or more of the following:

- equipment/plant/machine malfunction
- variations in process conditions
- variations in materials or contamination of materials
- equipment, tool, die or mould damage
- product faults
- tooling problems

Known solutions are drawn from one or more of the following:

- procedures
- training
- remembered experience

Non-routine problems must be reported according to relevant procedures.

Unit Mapping Information

No equivalent unit

Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=d1287d36-dff4-4e9f-ad2c-9d6270054027

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Assessment Requirements for MSMRV359 Install additional appliances in a recreational vehicle

Modification History

Release 1 - New unit.

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:

- install additional appliances to at least three (3) recreational vehicles
- interpret requirements and plan work
- identify hazards and apply relevant hazard controls
- recognise situations requiring action and take the appropriate action
- communicate effectively with customers, team/work group and supervisors.

Knowledge Evidence

Evidence must be provided that demonstrates knowledge of:

- hazards that may arise in the job/work environment
- installation procedures and the reasons for those procedures
- materials and tools to be used and their correct usage
- checks and adjustments to be made.

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 operation
  - will typically include a supervisor/third-party report or other evidence, 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
  - may use industry-based simulation for all or part of the unit particularly where safety, lack of opportunity or significant cost is an issue.

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- 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.
- 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

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MSMRV360 Service camper wind up systems

Modification History

Release 1 - New unit.

Application

This unit of competency covers the skills and knowledge required to service the wind up system of a camper van. The work will be carried out in a recreational vehicle service and repair facility.

This unit of competency covers the preparation for, servicing of and clean-up after wind up servicing.

The operator will be required to work to procedures, and follow plans/specifications, insurance requirements and customer needs.

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.

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

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1	**Plan the work**	1.1	Review the requirements of the work, including insurance requirements and customer needs
		1.2	Examine wind up system and determine what needs to be done and how to do it
		1.3	Check required tools are available at the worksite
		1.4	Check required materials and components are available at the worksite
		1.5	Identify any hazards and the related hazard controls
		1.6	Check that hazard controls are in place and operational
		1.7	Query any items that are different to usual and clarify requirements
2	**Service the wind up system in accordance with devised procedures**	2.1	Use relevant hazard controls, including personal protective equipment (PPE)
		2.2	Clean the wind up system as required
		2.3	Lubricate the wind up system as required
		2.4	Replace any components which need replacing
		2.5	Make any required adjustments to the wind up system
		2.6	Segregate and handle waste in accordance with procedures
3	**Finish wind up system service**	3.1	Check wind up system functions as intended and make any required adjustments
		3.2	Clean up recreational vehicle and make ready for hand back to customer
		3.3	Clean up work area, leaving it ready for the next job
		3.4	Segregate and handle waste in accordance with procedures
		3.5	Complete any required documentation/records

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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:

- work instructions
- standard operating procedures (SOPs)
- safe work method statements (SWMS)
- temporary instructions
- any similar instructions provided for the smooth running of the plant

Hazards

Hazards include one or more of the following:

- heat, dust or other atmospheric hazards
- electricity
- gas
- equipment failures
- industrial (machinery, equipment and product)
- noise, rotational equipment or vibration

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- 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:

- equipment/plant/machine malfunction
- variations in process conditions
- variations in materials or contamination of materials
- equipment, tool, die or mould damage
- product faults
- tooling problems

Known solutions are drawn from one or more of the following:

- procedures
- training
- remembered experience

Non-routine problems must be reported according to relevant procedures.

Unit Mapping Information

No equivalent unit

Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=d1287d36-dff4-4e9f-ad2c-9d6270054027

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Assessment Requirements for MSMRV360 Service camper wind up systems

Modification History

Release 1 - New unit.

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:

- service camper wind up systems on at least three (3) recreational vehicles
- interpret requirements and plan work
- identify hazards and apply relevant hazard controls
- recognise situations requiring action and take the appropriate action
- communicate effectively with customers, team/work group and supervisors.

Knowledge Evidence

Evidence must be provided that demonstrates knowledge of:

- hazards that may arise in the job/work environment
- servicing procedures and the reasons for those procedures
- materials and tools to be used and their correct usage
- checks and adjustments to be made.

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 operation
  - will typically include a supervisor/third-party report or other evidence, 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
  - may use industry-based simulation for all or part of the unit particularly where safety, lack of opportunity or significant cost is an issue.

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- 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.
- 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

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MSMRV361 Repair dry rot in a recreational vehicle

Modification History

Release 1 - New unit.

Application

This unit of competency covers the skills and knowledge required to identify and repair dry rot in a recreational vehicle. The dry rot will typically be in window frames/sills or the wall frame. The work will be carried out in a recreational vehicle service and repair facility.

This unit of competency covers the preparation for, repair of and clean-up after repairing dry rot.

The operator will be required to work to procedures, and follow plans/specifications, insurance requirements and customer needs.

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.

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

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1	**Plan the work**	1.1	Review the requirements of the work, including insurance requirements and customer needs
		1.2	Examine the suspect timber and confirm it is affected by dry rot
		1.3	Establish the possible cause, extent and impact on structural integrity of the dry rot
		1.4	Determine what needs to be done and how to do it
		1.5	Check required tools and jigs are available at the worksite
		1.6	Check required materials and components are available at the worksite
		1.7	Identify any hazards and the related hazard controls
		1.8	Check that hazard controls are in place and operational
		1.9	Query any items that are different to usual and clarify requirements
2	**Expose and remove the dry rot in accordance with devised procedures**	2.1	Use relevant hazard controls, including personal protective equipment (PPE)
		2.2	Remove items as required to expose the dry rot, maximising the potential for reuse
		2.3	Temporarily store items which are to be reused
		2.4	Examine all removed items and the adjacent parts of the caravan which have been revealed
		2.5	Remove damaged timber as required
		2.6	Identify any additional damage revealed and decide how it can be made good
		2.7	Negotiate with customer over any changes in job scope and cost
		2.8	Segregate and handle waste in accordance with procedures

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3	**Treat and replace damaged timber in accordance with devised procedures**	3.1	Use relevant hazard controls, including PPE
		3.2	Treat remaining timber as required
		3.3	Replace removed timber ensuring adequate structural integrity
		3.4	Trim as required
		3.5	Ensure new timber is attached as required
4	**Rectify cause of dry rot**	4.1	Identify source of water causing dry rot
		4.2	Reseal to prevent ingress of water
5	**Make good area of work in accordance with devised procedures**	5.1	Reinstate/replace removed items
		5.2	Check items are fixed appropriately
		5.3	Apply seals/sealing materials as required
		5.4	Trim as required
		5.5	Check items function as intended and make adjustments as required
6	**Finish dry rot repair**	6.1	Check work undertaken and make any required adjustments
		6.2	Clean up recreational vehicle and make ready for hand back to customer
		6.3	Clean up work area, leaving it ready for the next job
		6.4	Segregate and handle waste in accordance with procedures
		6.5	Complete any required documentation/records

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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:

- work instructions
- standard operating procedures (SOPs)
- safe work method statements (SWMS)
- temporary instructions
- any similar instructions provided for the smooth running of the plant

Hazards

Hazards include one or more of the following:

- heat, dust or other atmospheric hazards
- electricity
- gas
- equipment failures
- industrial (machinery, equipment and product)
- noise, rotational equipment or vibration

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- 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:

- equipment/plant/machine malfunction
- variations in process conditions
- variations in materials or contamination of materials
- equipment, tool, die or mould damage
- product faults
- tooling problems

Known solutions are drawn from one or more of the following:

- procedures
- training
- remembered experience

Non-routine problems must be reported according to relevant procedures.

Unit Mapping Information

No equivalent unit

Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=d1287d36-dff4-4e9f-ad2c-9d6270054027

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Assessment Requirements for MSMRV361 Repair dry rot in a recreational vehicle

Modification History

Release 1 - New unit.

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:

- repair dry rot in at least three (3) recreational vehicles
- interpret requirements and plan work
- identify hazards and apply relevant hazard controls
- recognise situations requiring action and take the appropriate action
- communicate effectively with customers, team/work group and supervisors.

Knowledge Evidence

Evidence must be provided that demonstrates knowledge of:

- hazards that may arise in the job/work environment
- repair procedures and the reasons for those procedures
- materials and tools to be used and their correct usage
- checks and adjustments to be made.

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 operation
  - will typically include a supervisor/third-party report or other evidence, 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
  - may use industry-based simulation for all or part of the unit particularly where safety, lack of opportunity or significant cost is an issue.

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- 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.
- 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

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MSMRV362 Install and repair battery systems in a recreational vehicle

Modification History

Release 1 - New unit.

Application

This unit of competency covers the skills and knowledge required to install and repair battery systems in a recreational vehicle. It includes dual battery systems. The work will be carried out in a recreational vehicle service and repair facility.

This unit of competency covers the preparation for, installation/repair of and clean-up after the battery system work.

The operator will be required to work to procedures, and follow plans/specifications, insurance requirements and customer needs.

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.

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

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1	**Plan the work**	1.1	Review the requirements of the work, including insurance requirements and customer needs
		1.2	Determine impact on electrical system of proposed changes
		1.3	Examine existing battery system, its capacity to handle proposed changes, determine what needs to be done and how to do it
		1.4	Check required tools and jigs are available at the worksite
		1.5	Check required materials and components are available at the worksite
		1.6	Identify any hazards and the related hazard controls
		1.7	Check that hazard controls are in place and operational
		1.8	Query any items that are different to usual and clarify requirements
		1.9	Remove items as required to make access for required work, maximising the potential for reuse
		1.10	Temporarily store items which are to be reused
2	**Install additional battery in accordance with devised procedures**	2.1	Use relevant hazard controls, including personal protective equipment (PPE)
		2.2	Install appropriate battery housing/restraint
		2.3	Install required electrical connections
		2.4	Place, fix and connect additional battery
		2.5	Test system and make any required changes
		2.6	Segregate and handle waste in accordance with procedures
3	**Repair battery**	3.1	Use relevant hazard controls, including PPE

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	system in accordance with devised procedures	3.2	Test battery system and determine fault
		3.3	Isolate location of fault where practical
		3.4	Replace components or repair fault as appropriate
		3.5	Run and connect new cabling if required
		3.6	Ensure any redundant cable is removed or left in a safe condition as appropriate
		3.7	Test system and make any required changes
		3.8	Segregate and handle waste in accordance with procedures
4	**Make good area of work in accordance with devised procedures**	4.1	Reinstate/replace removed items
		4.2	Check items are fixed appropriately
		4.3	Apply seals/sealing materials as required
		4.4	Trim as required
		4.5	Check items function as intended and make adjustments as required
5	**Finish battery system work**	5.1	Check work undertaken and make any required adjustments
		5.2	Clean up recreational vehicle and make ready for hand back to customer
		5.3	Clean up work area, leaving it ready for the next job
		5.4	Segregate and handle waste in accordance with procedures
		5.5	Complete any required documentation/records

Foundation Skills

This section describes those language, literacy, numeracy and employment skills that are essential to performance.

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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:

- work instructions
- standard operating procedures (SOPs)
- safe work method statements (SWMS)
- temporary instructions
- any similar instructions provided for the smooth running of the plant

Hazards

Hazards include one or more of the following:

- heat, dust or other atmospheric hazards
- electricity
- gas
- 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

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- 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:

- equipment/plant/machine malfunction
- variations in process conditions
- variations in materials or contamination of materials
- equipment, tool, die or mould damage
- product faults
- tooling problems

Known solutions are drawn from one or more of the following:

- procedures
- training
- remembered experience

Non-routine problems must be reported according to relevant procedures.

Unit Mapping Information

No equivalent unit

Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=d1287d36-dff4-4e9f-ad2c-9d6270054027

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Assessment Requirements for MSMRV362 Install and repair battery systems in a recreational vehicle

Modification History

Release 1 - New unit.

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:

- install battery systems in at least one (1) recreational vehicles
- repair battery systems in at least three (3) recreational vehicles
- interpret requirements and plan work
- identify hazards and apply relevant hazard controls
- recognise situations requiring action and take the appropriate action
- communicate effectively with customers, team/work group and supervisors.

Knowledge Evidence

Evidence must be provided that demonstrates knowledge of:

- hazards that may arise in the job/work environment
- fitting procedures and the reasons for those procedures
- materials and tools to be used and their correct usage
- checks and adjustments to be made.

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 operation
  - will typically include a supervisor/third-party report or other evidence, 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
  - may use industry-based simulation for all or part of the unit particularly where safety, lack of opportunity or significant cost is an issue.

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- 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.
- 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

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MSMRV363 Complete pre-delivery check of a recreational vehicle

Modification History

Release 1 - New unit.

Application

This unit of competency covers the skills and knowledge required to complete the pre-delivery checks on a recreational vehicle. The work will be carried out in a recreational vehicle service and repair facility.

The operator will be required to work to procedures, and follow plans/specifications, insurance requirements and customer needs.

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.

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 required checks**	1.1	Identify the work which was to be done, including insurance requirements and customer needs

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		1.2	Check that the work has been completed
		1.3	List all checks/tests which need to be undertaken as a result of that work
		1.4	Identify any hazards and the related hazard controls
		1.5	Check that hazard controls are in place and operational
		1.6	Query any items that are different to usual and clarify requirements
2	**Undertake checks in accordance with procedures**	2.1	Use relevant hazard controls, including personal protective equipment (PPE)
		2.2	Complete all checks/tests arising from the work which was done
		2.3	Check the recreational vehicle is clean and tidy inside and out
		2.4	Make any adjustments/arrange for re-work as required
		2.5	Check all other appliances and features function as intended
		2.6	Compile a list of any items requiring attention
3	**Finish pre-delivery check**	3.1	Complete any required documentation/records
		3.2	Advise that the work has been completed
		3.3	Advise of work required to address items requiring attention
		3.4	Seek agreement to undertake additional work, or note that it is required in the future

Foundation Skills

This section describes those language, literacy, numeracy and employment skills that are essential to performance.

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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:

- work instructions
- standard operating procedures (SOPs)
- safe work method statements (SWMS)
- temporary instructions
- any similar instructions provided for the smooth running of the plant

Hazards

Hazards include one or more of the following:

- heat, dust or other atmospheric hazards
- electricity
- gas
- 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

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Routine problems

Routine problems must be resolved by applying known solutions.

Routine problems are predictable and include one or more of the following:

- equipment/plant/machine malfunction
- variations in process conditions
- variations in materials or contamination of materials
- equipment, tool, die or mould damage
- product faults
- tooling problems

Known solutions are drawn from one or more of the following:

- procedures
- training
- remembered experience

Non-routine problems must be reported according to relevant procedures.

Unit Mapping Information

No equivalent unit

Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=d1287d36-dff4-4e9f-ad2c-9d6270054027

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Assessment Requirements for MSMRV363 Complete pre-delivery check of a recreational vehicle

Modification History

Release 1 - New unit.

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:

- complete pre-delivery checks on at least six (6) recreational vehicles
- interpret requirements and plan work
- identify hazards and apply relevant hazard controls
- recognise situations requiring action and take the appropriate action
- communicate effectively with customers, team/work group and supervisors.

Knowledge Evidence

Evidence must be provided that demonstrates knowledge of:

- hazards that may arise in the job/work environment
- check procedures and the reasons for those procedures
- materials and tools to be used and their correct usage
- checks and adjustments to be made.

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 operation
  - will typically include a supervisor/third-party report or other evidence, 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
  - may use industry-based simulation for all or part of the unit particularly where safety, lack of opportunity or significant cost is an issue.

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- 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.
- 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

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MSMRV364 Hand over a recreational vehicle to a customer

Modification History

Release 1 - New unit.

Application

This unit of competency covers the skills and knowledge required to hand over a recreational vehicle to a customer after completion of service/repair. The work will be carried out in a recreational vehicle service and repair facility.

The operator will be required to work to procedures, and follow plans/specifications, insurance requirements and customer needs.

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.

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 work done**	1.1	Identify the work which was to be done, including insurance requirements and customer needs

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		1.2	Check that the pre-delivery check has been completed
		1.3	Assemble all documentation and other items required
		1.4	Arrange a suitable time with the customer for the handover
		1.5	Ensure the recreational vehicle is in an appropriate location for the handover
2	**Hand over to the customer**	2.1	Meet with the customer at the agreed time
		2.2	Explain to the customer what has been done
		2.3	Show the customer any appropriate worn/damaged items
		2.4	Demonstrate to the customer the use of any new/changed or serviced item
		2.5	Advise the customer of the current condition of the recreational vehicle and future work which may be required
		2.6	Ensure the customer is happy with the work done
		2.7	Ensure payment and other contractual details have been completed
		2.8	Ensure the recreational vehicle is ready for road travel
		2.9	Assist the customer hitch/take delivery of the recreational vehicle
3	**Finish handover**	3.1	Complete any required documentation/records
		3.2	Make a record of any particular issues (positive or negative) which arose while handing over to the customer
		3.3	File all records in accordance with procedures

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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:

- work instructions
- standard operating procedures (SOPs)
- safe work method statements (SWMS)
- temporary instructions
- any similar instructions provided for the smooth running of the plant

Hazards

Hazards include one or more of the following:

- heat, dust or other atmospheric hazards
- electricity
- gas
- equipment failures
- industrial (machinery, equipment and product)
- noise, rotational equipment or vibration

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- 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:

- equipment/plant/machine malfunction
- variations in process conditions
- variations in materials or contamination of materials
- equipment, tool, die or mould damage
- product faults
- tooling problems

Known solutions are drawn from one or more of the following:

- procedures
- training
- remembered experience

Non-routine problems must be reported according to relevant procedures.

Unit Mapping Information

No equivalent unit

Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=d1287d36-dff4-4e9f-ad2c-9d6270054027

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Assessment Requirements for MSMRV364 Hand over a recreational vehicle to a customer

Modification History

Release 1 - New unit.

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:

- hand over at least six (6) recreational vehicles to a customer
- interpret requirements and plan work
- identify hazards and apply relevant hazard controls
- recognise situations requiring action and take the appropriate action
- communicate effectively with customers, team/work group and supervisors.

Knowledge Evidence

Evidence must be provided that demonstrates knowledge of:

- hazards that may arise in the job/work environment
- handover procedures and the reasons for those procedures
- materials and tools to be used and their correct usage
- checks and adjustments to be made.

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 operation
  - will typically include a supervisor/third-party report or other evidence, 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
  - may use industry-based simulation for all or part of the unit particularly where safety, lack of opportunity or significant cost is an issue.

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- 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.
- 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

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MSMRV365 Remove and refit body moulding

Modification History

Release 1 - New unit.

Application

This unit of competency covers the skills and knowledge required to remove and refit body moulding on a recreational vehicle. The same moulding may be replaced, or the removed moulding may be replaced with a different moulding. The work will be carried out in a recreational vehicle manufacturing or service and repair facility.

This unit of competency covers the preparation for, removal of, refitting of, and clean-up after the removal and refitting of a moulding.

The operator will be required to work to procedures, and follow plans/specifications, insurance requirements and customer needs.

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.

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

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1	**Plan the work**	1.1	Review the requirements of the work, including insurance requirements and customer needs
		1.2	Examine moulding, determine what needs to be done and how to do it
		1.3	Check required tools and jigs are available at the worksite
		1.4	Check required materials and components are available at the worksite
		1.5	Identify any hazards and the related hazard controls
		1.6	Check that hazard controls are in place and operational
		1.7	Query any items that are different to usual and clarify requirements
2	**Remove moulding in accordance with devised procedures**	2.1	Use relevant hazard controls, including personal protective equipment (PPE)
		2.2	Remove moulding maximising the potential for reuse
		2.3	Segregate and handle waste in accordance with procedures
		2.4	Temporarily store moulding and components which are to be reused
3	**Refit moulding in accordance with devised procedures**	3.1	Use relevant hazard controls, including PPE
		3.2	Refit moulding in accordance with the devised procedure
		3.3	Trim as required
		3.4	Ensure moulding is attached as required
4	**Finish removal and refitting of**	4.1	Check moulding has been refitted correctly and make any required adjustments

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moulding	4.2	Clean up recreational vehicle and make ready for return to customer
	4.3	Clean up work area, leaving it ready for the next job
	4.4	Segregate and handle waste in accordance with procedures
	4.5	Complete any required documentation/records

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:

- work instructions
- standard operating procedures (SOPs)
- safe work method statements (SWMS)

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- temporary instructions
- any similar instructions provided for the smooth running of the plant

Hazards

Hazards include one or more of the following:

- heat, dust or other atmospheric hazards
- electricity
- gas
- 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:

- equipment/plant/machine malfunction
- variations in process conditions
- variations in materials or contamination of materials
- equipment, tool, die or mould damage
- product faults
- tooling problems

Known solutions are drawn from one or more of:

- procedures
- training
- remembered experience

Non-routine problems must be reported according to relevant procedures.

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Unit Mapping Information

No equivalent unit

Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=d1287d36-dff4-4e9f-ad2c-9d6270054027

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Assessment Requirements for MSMRV365 Remove and refit body moulding

Modification History

Release 1 - New unit.

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:

- remove and refit mouldings in at least three (3) recreational vehicles
- interpret requirements and plan work
- identify hazards and apply relevant hazard controls
- recognise situations requiring action and take the appropriate action
- communicate effectively with customers, team/work group and supervisors.

Knowledge Evidence

Evidence must be provided that demonstrates knowledge of:

- hazards that may arise in the job/work environment
- removal and refitting procedures and the reasons for those procedures
- materials and tools to be used and their correct usage
- checks and adjustments to be made.

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 operation
  - will typically include a supervisor/third-party report or other evidence, 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
  - may use industry-based simulation for all or part of the unit particularly where safety, lack of opportunity or significant cost is an issue.

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- 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.
- 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

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MSMRV366 Fit transfers and decals to a recreational vehicle

Modification History

Release 1 - New unit.

Application

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	**Plan the work**	1.1	Review the requirements of the work, including insurance requirements and customer needs
		1.2	Examine transfer and decal, the surfaces to which they are to be applied and determine what needs to be done and how to do it
		1.3	Check required tools and jigs are available at the worksite
		1.4	Check required materials and components are available at the worksite
		1.5	Identify any hazards and the related hazard controls
		1.6	Check that hazard controls are in place and operational
		1.7	Query any items that are different to usual and clarify requirements

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2	**Fit transfers and decals in accordance with devised procedures**	2.1	Use relevant hazard controls, including personal protective equipment (PPE)
		2.2	Fit transfers and decals in accordance with the devised procedure
		2.3	Trim as required
		2.4	Ensure transfers and decals are attached as required
3	**Finish fitting of transfers and decals**	3.1	Check transfers and decals have been fitted correctly and make any required adjustments
		3.2	Clean up recreational vehicle and make ready for return to customer
		3.3	Clean up work area, leaving it ready for the next job
		3.4	Segregate and handle waste in accordance with procedures
		3.5	Complete any required documentation/records

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)

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- 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:

- work instructions
- standard operating procedures (SOPs)
- safe work method statements (SWMS)
- temporary instructions
- any similar instructions provided for the smooth running of the plant

Hazards

Hazards include one or more of the following:

- heat, dust or other atmospheric hazards
- electricity
- gas
- 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:

- equipment/plant/machine malfunction
- variations in process conditions
- variations in materials or contamination of materials
- equipment, tool, die or mould damage
- product faults
- tooling problems

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Known solutions are drawn from one or more of the following:

- procedures
- training
- remembered experience

Non-routine problems must be reported according to relevant procedures.

Unit Mapping Information

No equivalent unit

Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=d1287d36-dff4-4e9f-ad2c-9d6270054027

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Assessment Requirements for MSMRV366 Fit transfers and decals to a recreational vehicle

Modification History

Release 1 - New unit.

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:

- fit transfers and decals to at least three (3) recreational vehicles
- interpret requirements and plan work
- identify hazards and apply relevant hazard controls
- recognise situations requiring action and take the appropriate action
- communicate effectively with customers, team/work group and supervisors.

Knowledge Evidence

Evidence must be provided that demonstrates knowledge of:

- hazards that may arise in the job/work environment
- fitting procedures and the reasons for those procedures
- materials and tools to be used and their correct usage
- checks and adjustments to be made.

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 operation
  - will typically include a supervisor/third-party report or other evidence, 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
  - may use industry-based simulation for all or part of the unit particularly where safety, lack of opportunity or significant cost is an issue.

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- 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.
- 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

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MSMRVG201 Tow a recreational vehicle safely

Modification History

Release 1. Supersedes and is equivalent to MSARVG201A Tow a recreational vehicle safely

Application

This unit of competency covers the skills and knowledge required to tow a recreational vehicle safely.

This unit of competency applies to those involved in the manufacture, service and repair, or sale of recreational vehicles. It may be applied in different workplaces, sectors and circumstances.

This unit assumes possession by the driver of a current Australian Driver's Licence. Driving must be carried out in compliance with the licence requirements and regulations of the relevant state/territory roads and traffic authority. Type of vehicle driven must comply with that permitted by the Driver's Licence.

The operator will be required to work to procedures, and follow plans/specifications for what is required.

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.

No licensing, legislative or certification requirements apply to this unit at the time of publication. Check local regulations for details.

Pre-requisite Unit

Nil

Competency Field

Support

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Unit Sector

Elements and Performance Criteria

Elements describe the essential outcomes		Performance criteria describe the performance needed to demonstrate achievement of the element	
1	**Assess safe towing weight of recreational vehicle**	1.1	Determine the gross weight of recreational vehicle and determine aggregate mass
		1.2	Check towing capacity of towing vehicle
		1.3	Check and adhere to tow bar capacity of towing vehicle
		1.4	Confirm the weight ratio of recreational and towing vehicle is safe in accordance with state/territory requirements and regulations
2	**Prepare for towing of recreational vehicle**	2.1	Prepare recreational vehicle for towing
		2.2	Conduct pre-operational checks on towing vehicle and recreational vehicle
		2.3	Carry out any minor routine repairs
		2.4	Report any complex faults and repairs to appropriate person and coordinate repairs
		2.5	Identify and act on relevant statutory regulations to reduce possible injury to self and others
		2.6	Attach recreational vehicle to towing vehicle in accordance with manufacturer and state/territory specifications, requirements and regulations
		2.7	Check visibility and adjust position of mirrors, if necessary
3	**Safely tow recreational vehicle on an**	3.1	Identify and comply with national and state/territory road rules and laws
		3.2	Show courtesy and consideration to other road users

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	open road	3.3	Manoeuvre recreational vehicle in forward and reverse directions and park in accordance with requirements, manufacturer instructions and traffic regulations
		3.4	Identify any driving hazards and avoid or control them, using appropriate defensive driving techniques
		3.5	Follow appropriate procedures in the event of a driving emergency
		3.6	Constantly monitor and act upon traffic and road conditions to enable safe operation and ensure no injury to people or damage to property, equipment, loads and facilities
		3.7	Reverse recreational vehicle to parking position, maintaining visibility and achieving accurate positioning
4	**Safely tow vehicle in the workplace**	4.1	Attach recreational vehicle to towing vehicle correctly and safely
		4.2	Check visibility and adjust position of mirrors, if necessary
		4.3	Identify any obstacles or hazards in planned route and remove or avoid, as appropriate
		4.4	Safely tow recreational vehicle to required space and reverse in carefully
		4.5	Position recreational vehicle as required

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.

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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:

- work instructions
- standard operating procedures (SOPs)
- safe work method statements (SWMS)
- temporary instructions
- any similar instructions provided for the smooth running of the plant

Hazards

Hazards include one or more of the following:

- heat, dust or other atmospheric hazards
- equipment failures
- industrial (machinery, equipment and product)
- unauthorised personnel
- slippery surfaces, spills or leaks
- road hazards
- 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:

- equipment/plant/machine malfunction
- variations in process conditions
- variations in materials or contamination of materials
- equipment, tool, die or mould damage

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- product faults
- tooling problems

Known solutions are drawn from one or more of the following:

- procedures
- training
- remembered experience

Non-routine problems must be reported according to relevant procedures.

Unit Mapping Information

Release 1. Supersedes and is equivalent to Tow a recreational vehicle safely

Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=d1287d36-dff4-4e9f-ad2c-9d6270054027

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Assessment Requirements for MSMRVG201 Tow a recreational vehicle safely

Modification History

Release 1. Supersedes and is equivalent to MSARVG201A Tow a recreational vehicle safely

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:

- tow a recreational vehicle on a public road on three (3) or more occasions
- tow a recreational vehicle in the workplace on three (3) or more occasions
- identify hazards and apply relevant hazard controls
- recognise situations requiring action and take the appropriate action
- communicate effectively with team/work group and supervisors.

Knowledge Evidence

Evidence must be provided that demonstrates knowledge of:

- gross weights and towing capacity
- hazards that may arise in the job/work environment
- towing procedures and the reasons for those procedures
- checks and adjustments to be made.

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 operation
  - will typically include a supervisor/third-party report or other evidence, 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
  - may use industry-based simulation for all or part of the unit particularly where safety, lack of opportunity or significant cost is an issue.

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- 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.
- 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

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MSMRVS202 Repair/service LPG systems in a recreational vehicle

Modification History

Release 1. Supersedes and is equivalent to MSARVS202A Repair/service LP gas systems in a recreational vehicle

Application

This unit of competency covers the skills and knowledge required to repair liquid petroleum gas (LPG) systems in a recreational vehicle. It applies to those working in a servicing agency or in the service section of a manufacturing enterprise.

The unit requires the determination of requirements and the repair or service of LPG systems with an operating pressure not exceeding 2.75 kPa in a recreational vehicle.

The operator will be required to work to procedures, and follow plans/specifications, insurance requirements and customer needs.

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.

This unit of competency applies to those who are responsible for recreational vehicle servicing. It applies only where relevant state/territory licensing requirements permit the repair and service of LPG systems in a recreational vehicle. Licensing requirements by state/territory and national authorities may vary.

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

Pre-requisite Unit

Nil

Competency Field

Operations

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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 repair requirements**	1.1	Identify or verify service or repair needs to LPG system, including insurance requirements and customer needs
		1.2	Access and interpret working drawings, plans and job specifications according to model and type of recreational vehicle
		1.3	Select tools and equipment to meet the job requirements and check them to ensure they are working safely
		1.4	Identify any safety hazards associated with the job and use appropriate personal protective equipment (PPE)
2	**Assess the system**	2.1	Identify and adhere to quality assurance requirements for repair or service
		2.2	Assess storage capacity and regulator size to ensure they are adequate for the load and do not exceed regulatory requirements and standards
		2.3	Ensure that piping and ventilation used comply with regulatory requirements and standards
		2.4	Evaluate the system's piping size to ensure it is appropriate for the dimensions and loads
		2.5	Check to ensure that size used for main run and branches provides minimum inlet pressure to each appliance in accordance with regulatory requirements and standards
		2.6	Check the set-out of the piping system to ensure correct position for appliances and cylinders and compliance with regulatory requirements and standards
3	**Plan and prepare the job**	3.1	Plan all necessary and appropriate tasks in conjunction with others involved in or affected by the work

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		3.2	Inform appropriate authorities of planned work and obtain and submit work notices, where required
		3.3	Estimate and order any required materials, equipment and appliances for the job and organise delivery
		3.4	Check materials, equipment and appliances delivered against the order form or delivery docket to ensure they correspond and are in an acceptable condition
		3.5	Identify and select appropriate tools and equipment for the repair/service
		3.6	Use appropriate PPE and read and interpret any safety information relevant to the job
4	**Service/repair system**	4.1	Service system, repair fault or install appliance in accordance with job requirements, standards and manufacturer specifications
		4.2	Repair piping system in accordance with job requirements and standards
		4.3	Position appliances to ensure adequate air supply and ventilation in accordance with job requirements and standards
		4.4	Locate and check consumer instruction plates, labels and compliance plates to ensure they comply with regulatory requirements and standards
5	**Test the system**	5.1	Adjust regulator to provide flow pressure in accordance with standards and enterprise requirements
		5.2	Select test equipment which is appropriate for the work
		5.3	Test the system, including ventilation, in accordance with standards and enterprise requirements
		5.4	Adjust the system to provide the required flow pressure in accordance with standards and enterprise requirements
		5.5	Record test data in the format required by relevant regulatory and enterprise requirements

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6	**Complete the job**	6.1	Assess work against the requirements of the job
		6.2	Assess quality of the total job in accordance with enterprise standards and requirements
		6.3	Complete all required paperwork for both customer and enterprise records
		6.4	Complete required clean-up 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:

- work instructions
- standard operating procedures (SOPs)

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- safe work method statements (SWMS)
- temporary instructions
- any similar instructions provided for the smooth running of the plant

Hazards

Hazards include one or more of the following:

- heat, dust or other atmospheric hazards
- electricity
- gas
- 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:

- equipment/plant/machine malfunction
- variations in process conditions
- variations in materials or contamination of materials
- equipment, tool, die or mould damage
- product faults
- tooling problems

Known solutions are drawn from one or more of the following:

- procedures
- training
- remembered experience

Non-routine problems must be reported according to relevant procedures.

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Unit Mapping Information

Release 1. Supersedes and is equivalent to MSARVS202A Repair/service LP gas systems in a recreational vehicle

Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=d1287d36-dff4-4e9f-ad2c-9d6270054027

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Assessment Requirements for MSMRVS202 Repair/service LPG systems in a recreational vehicle

Modification History

Release 1. Supersedes and is equivalent to MSARVS202A Repair/service LP gas systems in a recreational vehicle

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:

- assess and plan LPG system service and/or repair in at least three (3) recreational vehicles
- service and/or repair and test an LPG system in at least three (3) recreational vehicles
- interpret requirements and plan work
- identify hazards and apply relevant hazard controls
- recognise situations requiring action and take the appropriate action
- communicate effectively with team/work group and supervisors.

Knowledge Evidence

Evidence must be provided that demonstrates knowledge of:

- hazards that may arise in the job/work environment and subsequent use of the LPG system, including gas properties and hazards, and combustion principles
- allowable cylinders, regulators, fittings and pressures
- determination of system capacity and size for requirements
- piping system design for requirements
- service/repair procedures and the reasons for those procedures
- materials and tools to be used and their correct usage
- checks and adjustments to be made
- relevant regulatory requirements.

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 operation

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  - will typically include a supervisor/third-party report or other evidence, 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
  - 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.
- 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

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MSMRVS401 Assess and quote to service a recreational vehicle

Modification History

Release 1 - Supersedes and is equivalent to MSARVS401A Assess and quote to service a recreational vehicle

Application

This unit of competency covers the skills and knowledge required to assess and quote a job to repair and/or service a recreational vehicle.

This unit of competency applies to an individual who will identify the customer's requirements, determine other specifications for the job, calculate costs, prepare a quote and, once approved, arrange for the job to proceed.

This unit of competency applies in enterprises conducting recreational vehicle servicing and repairs and may be applied in different workplaces, sectors and circumstances.

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	**Assess job**	1.1	Assess any damage and/or identify service requirements

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	requirements	1.2	Select and review relevant plans, drawings or manuals according to type and model of recreational vehicle
		1.3	Determine accurately the service and/or repair requirements of the job
		1.4	Provide advice or make recommendations on repair and/or service on request
		1.5	Identify any options to meet customer preferences and specific job requirements
		1.6	Consider and recommend any additional services which may be required
2	**Quote the job**	2.1	Select repair or service options and agree on scope in consultation with customer
		2.2	Identify and calculate materials, parts and equipment required to meet the job requirements and appropriate sources
		2.3	Calculate the costs of the job
		2.4	Prepare quotation and present to customer in a professional manner
		2.5	Obtain customer's agreement to quotation, details of work to be completed and timeframes
		2.6	Order parts, materials and equipment, where required, according to enterprise procedures
		2.7	Liaise with colleagues and others, where required, to organise the job
		2.8	Complete any documentation and file appropriately according to enterprise procedures
		2.9	Schedule the job, as appropriate, in agreement with customer and follow booking procedures according to enterprise practices

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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:

- codes of practice of the Recreational Vehicle Manufacturers' Association of Australia (RVMAA)
- licensing requirements related to installation, servicing and repair of gas, electrical, plumbing, air conditioning fittings and wiring
- welding, joining and adhesives
- 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 plans, specifications and drawings
- safe work method statements (SWMS)
- safe worksite work practices
- manufacturer manuals
- material safety data sheets (MSDS)
- requirements for personal protective equipment (PPE)
- work instructions

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- standard operating procedures (SOPs)
- temporary instructions
- any similar instructions provided for the smooth running of the plant

Recreational vehicles

Recreational vehicles includes one or more of the following:

- caravan
- pop-top caravan
- camper trailer
- tent trailer
- 5th wheeler
- slide-on camper
- campervan
- motor home

Service requirements

Service requirements are determined from customer preferences and manufacturer repair/service specifications for recreational vehicle components, and include one or more of the following:

- chassis
- walls
- roof
- furnishing
- piping/wiring for services
- accessories
- appliances
- running gear

Customers

Customers include one or more of the following:

- recreational vehicle owners/users
- recreational vehicle retailers
- recreational vehicle service contractors
- insurance companies

Materials, parts and equipment

Materials, parts and equipment include one or more of the following:

- hand and power tools
- small plant
- replacement materials, floor coverings, panelling and furnishings
- components and running gear
- parts and accessories

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Repair or service costs	Repair or service costs include one or more of the following: • labour • materials • parts • fixtures and fittings • appliances • equipment (use or hire)

Unit Mapping Information

Release 1. Supersedes and is equivalent to MSARVS401A Assess and quote to service a recreational vehicle

Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=d1287d36-dff4-4e9f-ad2c-9d6270054027

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Assessment Requirements for MSMRVS401 Assess and quote to service a recreational vehicle

Modification History

Release 1 - Supersedes and is equivalent to MSARVS401A Assess and quote to service a recreational vehicle

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:

- plan, organise and schedule work activities
- determine job requirements
- apply customer service, negotiation and communication skills
- estimate and calculate all aspects of repair/service costs to meet job requirements
- read and interpret typical floor plans, drawings and manuals of recreational vehicles
- identify and assess problems and recommend appropriate remedies
- communicate effectively with colleagues and customers on job requirements.

Knowledge Evidence

Evidence must be provided that demonstrates knowledge of:

- regulatory framework
- features of different recreational vehicle types and makes, and their design and structural features
- recommended service and maintenance requirements, and schedules for recreational vehicles
- details, features and current costs of components, materials and parts
- required equipment for the job and any associated costs and transport requirements.

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

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  - 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
  - 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

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MSMRVT201 Apply technical knowledge of recreational vehicle manufacturing to work activities

Modification History

Release 1 - Supersedes and is equivalent to MSARVT201A Apply technical knowledge of recreational vehicle manufacturing to work activities

Application

This unit of competency covers the basic technical knowledge required to conduct a range of work activities in the recreational vehicle manufacturing, servicing and retail sectors of the caravan industry.

This unit of competency applies to those involved in the manufacturing, servicing and retail of recreational vehicles. It may be applied in different workplaces, sectors and circumstances.

This unit of competency applies to roles performed by recreational vehicle manufacturing and service personnel, recreational vehicle and accessories sales personnel, and recreational vehicle designers and manufacturers.

The operator will be required to work to procedures, and follow plans/specifications for what is required.

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.

No licensing, legislative or certification requirements apply to this unit at the time of publication. Check local regulations for details.

Pre-requisite Unit

Nil

Competency Field

Support

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Unit Sector

Elements and Performance Criteria

Elements describe the essential outcomes		Performance criteria describe the performance needed to demonstrate achievement of the element	
1	**Apply technical information on recreational vehicles to work activities**	1.1	Identify sources of current information on recreational vehicle manufacturing
		1.2	Access and update information relevant to work activities
		1.3	Apply technical information regarding the manufacture of recreational vehicles and accessories to work activities
2	**Identify relevant information on regulatory and legal requirements to work activities**	2.1	Apply information on legal and regulatory obligations to assist in effective work performance
		2.2	Monitor issues of current concern to the industry
		2.3	Conduct day-to-day activities in accordance with legal and regulatory obligations, industry practices and enterprise procedures
		2.4	Share knowledge with customers and colleagues, as appropriate, and incorporate into day-to-day work activities
3	**Apply information on products to work activities**	3.1	Apply information on products produced both within and outside the enterprise to work activities
		3.2	Apply information about models, parts, accessories and options to meet customer requirements/requests and enterprise needs

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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 requirements

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:

- work instructions
- standard operating procedures (SOPs)
- safe work method statements (SWMS)
- 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:

- equipment/plant/machine malfunction
- variations in process conditions
- variations in materials or contamination of materials

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- equipment, tool, die or mould damage
- product faults
- tooling problems

Known solutions are drawn from one or more of the following:

- procedures
- training
- remembered experience

Non-routine problems must be reported according to relevant procedures.

Unit Mapping Information

Release 1. Supersedes and is equivalent to MSARVT201A Apply technical knowledge of recreational vehicle manufacturing to work activities

Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=d1287d36-dff4-4e9f-ad2c-9d6270054027

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Assessment Requirements for MSMRVT201 Apply technical knowledge of recreational vehicle manufacturing to work activities

Modification History

Release 1 - Supersedes and is equivalent to MSARVT201A Apply technical knowledge of recreational vehicle manufacturing to work activities

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:

- apply relevant information to own work activities
- identify and share relevant information within and outside the organisation
- recognise situations requiring action and take the appropriate action
- communicate effectively with customers, team/work group and supervisors.

Knowledge Evidence

Evidence must be provided that demonstrates knowledge of:

- technical information, such as parts, components and specifications, relevant to own work
- sources of information relevant to own job
- regulatory and other requirements relevant to own job.

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 operation
  - will typically include a supervisor/third-party report or other evidence, 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
  - may use industry-based simulation for all or part of the unit particularly where safety, lack of opportunity or significant cost is an issue.

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- 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.
- 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

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MSMSUP100 Apply workplace context to own job

Modification History

Release 1. Supersedes and is equivalent to MSAPMSUP100A Apply workplace procedures

Application

This unit of competency covers the skills and knowledge required to complete own work activities.

This unit of competency applies to personnel who are required to have a working knowledge of the organisation and its processes, products, customers and competitors and to work effectively within organisation procedures.

This is a general competency that is performed by all personnel.

It applies to an individual working alone or as part of a team/work group and working in liaison with other team members and supervisors.

This unit of competency applies to all areas of operation.

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

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1	**Identify industry sector**	1.1	Identify the industry sector
		1.2	Recognise the major competitors in the industry and their products
		1.3	State the major external issues facing the industry
2	**Identify products and customers**	2.1	Name company products
		2.2	State needs of external customers in line with organisation priorities
		2.3	State needs of internal customers
		2.4	Identify own role in meeting customer requirements
3	**Recognise plant structure and processes**	3.1	Identify key production sites/areas
		3.2	State own role in organisational structure
		3.3	Describe the production process relevant to own work area and relationship with other parts of the production process
4	**Identify own workplace responsibilities**	4.1	Identify company objectives
		4.2	Identify organisational policies and guidelines in relation to job role
		4.3	State key responsibilities, including work health and safety (WHS) of own section/team
		4.4	Identify task requirements within work role
		4.5	Describe own role in achieving section/team, plant and company objectives
5	**Follow workplace procedures**	5.1	Identify existing procedures relevant to job role
		5.2	Follow procedures in undertaking tasks

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		5.3	Seek advice from relevant personnel in clarifying procedures when appropriate
6	**Recognise quality requirements**	6.1	Identify instances of variation in quality from specifications or procedures
		6.2	Identify basic quality concepts to work activities
		6.3	Follow organisation procedures for reporting and managing variations
		6.4	Report problems with materials/product quality to appropriate person
		6.5	Follow organisation procedures for identifying and suggesting improvements to improve product quality
		6.6	Work within the organisation quality system
7	**Plan and follow a personal daily routine**	7.1	Plan own daily routine to take into account rosters, industrial agreements and workplace procedures
		7.2	Seek clarification of requirements of tasks when appropriate
		7.3	Agree achievable time and other performance measures
		7.4	Complete tasks and identify and report variations to plan

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

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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 reported and corrective action taken according to relevant procedures.

Routine problems include one or more of the following:

- changes to the normal situation
- changes to the daily routine
- quality variations
- changes to the process inputs
- changes in the process

Corrective actions

Corrective actions include one or more of the following:

- reporting to an appropriate person

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- taking action specified in procedures

Appropriate personnel

Appropriate personnel include one or more of the following:

- supervisor
- more senior operator
- other designated personnel

Unit Mapping Information

Release 1. Supersedes and is equivalent to MSAPMSUP100A Apply workplace procedures

Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=d1287d36-dff4-4e9f-ad2c-9d6270054027

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Assessment Requirements for MSMSUP100 Apply workplace context to own job

Modification History

Release 1. Supersedes and is equivalent to MSAPMSUP100A Apply workplace procedures

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 the ability to:

- use information contained in:
  - standard operating procedures (SOPs)
  - safety, hazard and incident procedures
  - maintenance logs
- identify processes relevant to work role
- identify work requirements and follow work instructions
- identify own and team/section role in meeting company objectives, including safety objectives and customer requirements
- identify the organisation's internal and external customers
- request advice and seek clarification in relation to job/work environment
- identify and apply quality standards
- recognise and report variations in quality and/or non-conformances
- identify routine problems and take corrective actions as required
- complete workplace forms and records

Knowledge Evidence

Evidence must be provided that demonstrates knowledge of:

- organisation procedures, including:
  - safety, emergency and hazard control
  - relevant SOPs
- the context in which the organisation operates, including:
  - the sector
  - major competitors
  - major external issues
- organisation goals, objectives and targets
- the impact of organisation procedures in own work, including:
  - equal employment opportunity (EEO) policies and procedures
  - ethical standards

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- work health and safety (WHS) policies, procedures and programs
- quality and continuous improvement processes and standards.

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
  - 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.

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MSMSUP101 Clean workplace or equipment

Modification History

Release 2. Equivalent. Minor edits for improved clarity. Range of conditions removed. Duplication between Performance Evidence and Performance Criteria removed. Assessment conditions updated.

Release 1. Supersedes and is equivalent to MSAPMSUP101A Clean workplace or equipment.

Application

This unit describes the skills and knowledge required for general housekeeping duties as well as the cleaning of plant and equipment. It covers identifying and maintaining housekeeping requirements and standards.

This unit applies to personnel who are required to keep the work area, plant and equipment clean and tidy whether as a small or significant part of their role.

This unit applies to an individual working alone or as part of a team or work group and working in liaison with other team members and supervisors.

This unit applies to all work environments.

This unit focuses on working safely to meet requirements. It does not cover the operation of specific equipment or cleaning procedures. Specific housekeeping and cleaning activities and equipment to be used will vary between organisations in response to differences in plant configuration, process, practices and procedures.

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

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Elements describe the essential *outcomes.*	*Performance criteria describe the performance needed to demonstrate achievement of the element.*
1. Identify housekeeping requirements	1.1 Identify site safety and housekeeping standards for the role and work environment 1.2 Identify hazards and follow specified hazard controls 1.3 Undertake housekeeping inspection in accordance with procedures 1.4 Identify and schedule housekeeping requirements
2. Perform general housekeeping duties	2.1 Keep designated work areas clean to organisation standards 2.2 Keep designated work areas clear of obstructions 2.3 Handle and use chemicals and solvents in accordance with procedures 2.4 Ensure work area is ready for next user 2.5 Remove work materials, tools and equipment to designated locations
3. Clean plant and equipment	3.1 Identify organisation procedures for routine and specialised cleaning for the role and work environment 3.2 Use appropriate personal protective equipment (PPE) 3.3 Apply procedures to keep assigned plant and equipment clean 3.4 Perform specialised cleaning procedures as required
4. Dispose of waste materials	4.1 Correctly identify waste materials 4.2 Remove waste materials to a designated location

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 MSAPMSUP101A Clean workplace or equipment.

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Links

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Assessment Requirements for MSMSUP101 Clean workplace or equipment

Modification History

Release 2. Equivalent. Minor edits for improved clarity. Range of conditions removed. Duplication between Performance Evidence and Performance Criteria removed. Assessment conditions updated.

Release 1. Supersedes and is equivalent to MSAPMSUP101A Clean workplace or equipment.

Performance Evidence

There must be evidence the candidate has completed the tasks outlined in the elements and performance criteria of this unit, and:

- identified, scheduled and performed housekeeping, cleaning and waste disposal duties in accordance with required standards and procedures
-

Knowledge Evidence

There must be evidence the candidate has knowledge of:

- organisation procedures, including:
  - housekeeping
  - cleaning and waste disposal for the role and work area
  - safety, emergency and hazard control
- relevant safety data sheets (SDS) for cleaning and process materials
- types and applications of personal protective equipment (PPE)
- hazards that may arise in the role and work area and appropriate action.
-

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:
  - cleaning tools and equipment, including personal protective equipment (PPE)
  - cleaning and workplace hazard reporting procedures and forms.

Assessors must satisfy the NVR/AQTF mandatory competency requirements for assessors.

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Links

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MSMSUP102 Communicate in the workplace

Modification History

Release 2. Equivalent. Minor edits for improved clarity. Range of conditions removed. Assessment conditions updated.

Release 1. Supersedes and is equivalent to MSAPMSUP102A Communicate in the workplace.

Application

This unit describes the skills and knowledge required to receive, relay and record written and oral messages and to provide relevant information in response to requests within timelines.

This unit applies to personnel who are required to communicate clearly and accurately to record messages, seek clarification, access needed information, relay information to other people and complete workplace documentation.

This unit applies to all work environments.

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**
Elements describe the essential *outcomes.*	*Performance criteria describe the performance needed to demonstrate achievement of the element.*
1. Receive and relay messages	1.1 Receive message and confirm understanding 1.2 Accurately record the message 1.3 Relay message accurately to appropriate person or section within designated timelines

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Elements	**Performance Criteria**
Elements describe the essential *outcomes.*	*Performance criteria describe the performance needed to demonstrate achievement of the element.*
2. Interpret messages	2.1 Clarify message if necessary 2.2 Take appropriate action 2.3 Respond to communication problems
3. Respond to request for information	3.1 Acknowledge the request for information and clarify understanding 3.2 Access information from appropriate sources 3.3 Relay information to appropriate person or section in a manner appropriate for the receiver
4. Complete workplace forms	4.1 Select appropriate form 4.2 Assemble information required for form 4.3 Complete workplace form 4.4 Submit workplace form

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 MSAPMSUP102A Communicate in the workplace.

Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=d1287d36-dff4-4e9f-ad2c-9d6270054027

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Assessment Requirements for MSMSUP102 Communicate in the workplace

Modification History

Release 2. Equivalent. Minor edits for improved clarity. Range of conditions removed. Assessment conditions updated.

Release 1. Supersedes and is equivalent to MSAPMSUP102A Communicate 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:

- received, recorded and relayed messages, including:
  - listening attentively and asking questions to confirm understanding
- responded to at least one request for information in accordance with procedures, including:
  - using clear and concise language in both verbal and written communication
- completed workplace forms legibly and accurately

Knowledge Evidence

There must be evidence the candidate has knowledge of:

- sources of information
- communication equipment
- organisation procedures, including:
  - telephone and communications protocols and/or procedures
  - documentation and record keeping
- types and meaning of workplace codes, numbers, symbols, signs and colours typically used in the work environment
- types, purpose and importance of workplace documentation
- workplace expectations for acceptable language and tone, including swearing, level of formality, courteousness and respect for diversity
- challenges in communicating with people from culturally and linguistically diverse (CALD) backgrounds in the workplace and possible strategies
- communication problems and corrective actions relevant to own role
-

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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, including:
  - workplace documentation and/or information
  - workplace forms.

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

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MSMSUP106 Work in a team

Modification History

Release 2. Equivalent. Minor edits for improved clarity. Range of conditions removed. Duplication between Performance Evidence and Performance Criteria removed. Assessment conditions updated.

Release 1. Supersedes and is equivalent to MSAPMSUP106A Work in a team.

Application

This unit describes the skills and knowledge required to organise own activities within a team to fit with work schedules and to meet operational guidelines.

This unit applies to team members who are required to use interpersonal and communication skills to plan, organise and complete their work activities according to instructions and with limited discretionary powers.

This unit applies to all work environments.

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**
Elements describe the essential *outcomes.*	*Performance criteria describe the performance needed to demonstrate achievement of the element.*
1. Identify work activities	1.1 Identify task requirements of the team 1.2 Identify own tasks that are part of the team requirement 1.3 Prioritise team and individual activities as directed
2. Organise daily work	2.1 Break work activities down into small achievable components

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Elements	**Performance Criteria**
Elements describe the essential *outcomes.*	*Performance criteria describe the performance needed to demonstrate achievement of the element.*
plan	2.2 Record activities as required by procedures 2.3 Seek assistance from other team members when difficulties in achieving allocated tasks arise
3. Participate in a team	3.1 Use communication and interpersonal skills to ensure effective teamwork 3.2 Acknowledge information and feedback provided by other team members in work group 3.3 Acknowledge team roles and support team members in achieving their role

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 MSAPMSUP106A Work in a team.

Links

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Assessment Requirements for MSMSUP106 Work in a team

Modification History

Release 2. Equivalent. Minor edits for improved clarity. Range of conditions removed. Duplication between Performance Evidence and Performance Criteria removed. Assessment conditions updated.

Release 1. Supersedes and is equivalent to MSAPMSUP106A Work in a team.

Performance Evidence

There must be evidence the candidate has completed the tasks outlined in the elements and performance criteria of this unit, and:

- participated in at least 1 work team to achieve allocated tasks
- used communication and interpersonal skills with:
  - team members
  - team leaders
  - supervisors.

Knowledge Evidence

There must be evidence the candidate has knowledge of:

- organisation procedures, including:
  - record keeping requirements
- own role in team and meeting team requirements and the role of other team members, team leaders and supervisors
- organisation work standards and how the team contributes to them
- interpersonal and communication techniques that promote effective teamwork including:
  - listening
  - questioning
  - paraphrasing
  - non-verbal communication
  - giving and receiving feedback.
  -

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.

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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

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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

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		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.

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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.

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Unit Mapping Information

Release 1. Supersedes and is equivalent to MSAPMSUP200A Achieve work outcomes

Links

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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

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  - 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

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MSMSUP204 Pack products or materials

Modification History

Release 1. Supersedes and is equivalent to MSAPMSUP204A Pack products or materials

Application

This unit of competency covers the skills and knowledge required to package products and/or materials to prepare them for despatch, warehousing or storage.

It applies to operators who are required to identify packaging requirements, use technology to package the goods and complete labelling and documentation. It covers the packaging of liquids or particulate solids, drums and semi-bulk containers, and so on.

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 includes the operation of all relevant ancillary equipment, such as pumps, valves, scales and other equipment integral to the packing operation.

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

The person undertaking this role may require licences to cover the operation of forklift trucks or other regulated load shifting devices. Licensing or certification may be required by the local Worksafe or other regulatory authority.

Pre-requisite Unit

Nil

Competency Field

Support

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Unit Sector

Elements and Performance Criteria

Elements describe the essential outcomes		Performance criteria describe the performance needed to demonstrate achievement of the element	
1	Prepare goods/materials for packaging	1.1	Interpret packaging specifications
		1.2	Interpret order packaging documentation
		1.3	Select appropriate technology for packaging goods/materials
		1.4	Identify packaging materials and match specifications
		1.5	Identify and control hazards
2	Package finished products or materials	2.1	Identify the nature of the product or material and the particular handling requirements
		2.2	Conduct process according to production specifications and organisational procedures
		2.3	Identify potential problems and required action/solution
		2.4	Conduct equipment start-up and run operation as necessary
		2.5	Employ ancillary equipment, as necessary, and use safe working procedures
3	Stack, label and store finished products or materials	3.1	Find out delivery, storage and location requirements in accordance with procedures
		3.2	Label or mark products or materials following workplace labelling standards
		3.3	Set up work area and handling and storage equipment taking account of safety and efficiency
		3.4	Store products where required making safe and efficient use of storage space

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		3.5	Complete workplace records/documentation
		3.6	Attach invoices and picking slips (where required)
4	Clear work area	4.1	Store unpacked products, products for packaging and handling equipment in appropriate areas
		4.2	Clean equipment and make ready for re-use
		4.3	Clean work area, making it safe and ready for the next user
		4.4	Report and document equipment faults

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.

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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

Documentation, labels and records

Documentation, labels and records include:

- any information and data in relation to despatch, receipt, movement and storage of goods whether it is manual, paper-based, electronic or verbal, either in person or by phone/radio, and includes one or more of the following:
  - order requests
  - invoices
  - picking slips
  - labels
  - transportation requirements
  - bills of materials
  - inventory lists
  - databases

Tools and equipment

Tools and equipment include one or more of the following:

- mobile plant/fork lifts
- manual handling equipment
- hand tools
- shrink wrappers
- tape machine labellers
- loose bulk packing equipment
- computers, bar code readers
- bag filling equipment
- pallets
- wrapping machines
- personal protective equipment (PPE)

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- distribution equipment, such as A-frames, stillages, containers, elevated platforms and communication equipment

Hazards

Hazards include one or more of the following:

- inappropriate movements and postures
- humidity, air temperature and radiant heat
- manual handling 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 resolved by applying known solutions.

Routine problems are predictable and include one or more of the following:

- equipment malfunctions
- product specifications
- handling specifications
- insufficient space
- unusual size, shape or mass of products or materials
- insufficient goods to complete order

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- conflicting priorities
- incomplete or incorrect paperwork

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 MSAPMSUP204A Pack products or materials

Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=d1287d36-dff4-4e9f-ad2c-9d6270054027

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Assessment Requirements for MSMSUP204 Pack products or materials

Modification History

Release 1. Supersedes and is equivalent to MSAPMSUP204A Pack products or 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 and must include the ability to:

- identify and interpret the packaging requirements
- select and use the appropriate technology and equipment for packaging
- label and store the goods
- select and use handling equipment
- apply known solutions to routine problems
- read and interpret product specifications, job sheets, procedures, material labels and safety information
- complete documentation and records
- apply appropriate safety precautions and procedures.

Knowledge Evidence

Evidence must be provided that demonstrates knowledge of:

- organisation procedures, including:
  - safety, emergency and hazard control
  - inventory and ordering systems
- types and application of handling equipment and any licensing requirements
- manual handling techniques and ergonomics relevant to the job
- safe storage of dangerous goods and hazardous materials relevant to the materials handled
- production work flow requirements for packaging.

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

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  - 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

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MSMSUP205 Transfer loads

Modification History

Release 1. Supersedes and is equivalent to MSAPMSUP205A Transfer loads

Application

This unit of competency covers the skills and knowledge required to move loads using cranes and gantries.

It applies to operators who are required to plan and apply the correct method to secure and move the goods safely without damage to the goods, personnel or equipment.

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 sectors of the industry.

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

The person undertaking this role may require licences to cover the operation of forklift trucks or other regulated load shifting devices. Licensing or certification may be required by the local Worksafe or other regulatory authority.

Pre-requisite Unit

Nil

Competency Field

Support

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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 operation	1.1	Correctly identify products, goods or material to be relocated
		1.2	Identify load characteristics, including mass, volume, shape, balance and dimensions
		1.3	Identify most efficient and appropriate piece of equipment to be used
		1.4	Estimate points of balance
		1.5	Consider effect of moving contents which may be loose, liquid, dangerous or hazardous
		1.6	Determine location of storage
		1.7	Carry out risk analysis for job
		1.8	Complete required hazard controls
		1.9	Identify most efficient and appropriate movement route
2	Prepare for lift	2.1	Select appropriate lifting equipment
		2.2	Check and test lifting gear as required
		2.3	Calculate safe working load (SWL) or working load limit (WLL)
		2.4	Clarify any non-standard requirements
		2.5	Report and replace any unsafe lifting gear
		2.6	Secure movable/loose parts of load
		2.7	Attach load suitable for transfer

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3	Transfer load	3.1	Prepare load destination to accept load
		3.2	Move load safely to required destination in accordance with planned procedure
		3.3	Use standard communication signals to coordinate safe movement of the load
		3.4	Remove equipment/gear/accessories safely from load
		3.5	Inspect equipment/gear/accessories for wear and damage, and clean, maintain, store and record usage and condition
		3.6	Complete site/job records
4	Respond to routine problems	4.1	Monitor transfer frequently and critically throughout load shifting using measured/indicated data and senses (e.g. sight and hearing) as appropriate
		4.2	Recognise transfer problems
		4.3	Identify and take action on causes of routine problems
		4.4	Log problems as required
		4.5	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.

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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

Communication signals

Communication signals include one or both of the following:

- hand signals
- radio/voice

Tools and equipment

Tools and equipment include one or more of the following:

- cranes and gantries
- slings, ropes, chains or nets
- block and tackle
- shackles, bolts or turnbuckles
- jemmy bars
- spreader beams
- equalising gear
- clamps
- pulley systems

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- winches
- packs
- rigging screws
- relevant personal protective equipment (PPE)

Hazards

Hazards include one or more of the following:

- unpredicted movement of loads
- loose goods
- volatile or hazardous materials and products
- irregular shaped loads
- unlabelled goods, materials and products
- 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

Hazard controls

Hazards controls include one or more of the following:

- obtaining a permit to work
- determining coordination requirements with other site personnel
- determining job method to include hazard prevention and controls
- applying Australian Standards for safety procedures, codes of practice and manufacturer specifications

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- erecting barricades, warning signs and overhead protection to requirements

Checking lifting gear

Checking lifting gear includes:

- checking pulleys and block and tackle for safe operation and load capacity
- checking ropes, cable, net and chain systems before use for safe condition and conformity to specification
- conducting testing of ropes, cable, net and chain system when required to ensure safe operating capacity
- checking sling material for conformity with equipment and safety requirements

Routine problems

Routine problems must be resolved by applying known solutions.

Routine problems are predictable and include one or more of the following:

- variations in load capacities of various sling materials
- frayed or damaged slings
- bolt or shackle failure
- lifting equipment failure

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 MSAPMSUP205A Transfer loads

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Links

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Assessment Requirements for MSMSUP205 Transfer loads

Modification History

Release 1. Supersedes and is equivalent to MSAPMSUP205A Transfer loads

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:

- plan and prepare for the safe relocation of goods based on load characteristics, risk analysis, equipment to be used and calculation of load limits
- select and use equipment to lift and transfer load and perform pre and post-checks
- apply known solutions to routine problems
- complete documentation and records
- communicate effectively to clarify requirements, report problems and coordinate safe movement of the load.

Knowledge Evidence

Evidence must be provided that demonstrates knowledge of:

- organisation procedures, including:
  - safety, emergency and hazard control
- types, application and capacity of load shifting equipment and any licensing requirements
- hazards that may arise in load transfer, including:
  - their possible causes
  - potential consequences
  - appropriate risk controls.
  -

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

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  - 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

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MSMSUP210 Process and record information

Modification History

Release 2. Equivalent. Minor edits for improved clarity. Foundation skills specified. Range of conditions removed. Duplication between Performance Evidence and Performance Criteria removed. Assessment conditions updated.

Release 1. Supersedes and is equivalent to MSAPMSUP210A Process and record information.

Application

This unit describes the skills and knowledge required to process information and respond to the information requirements of own job, including the completion of workplace documents, and clearly and concisely providing relevant information to others.

This unit applies to personnel who are required to identify routine information requirements, access and process information, provide workplace and technical information within their area of expertise and complete workplace documentation. Information will be conveyed orally and in writing.

This unit applies to all work environments.

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**
Elements describe the essential *outcomes.*	*Performance criteria describe the performance needed to demonstrate achievement of the element.*
1. Access information	1.1 Identify the need for information 1.2 Request appropriate information

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Elements	**Performance Criteria**
Elements describe the essential *outcomes.*	*Performance criteria describe the performance needed to demonstrate achievement of the element.*
	1.3 Access information in accordance with procedures 1.4 Comply with security procedures in accessing appropriate information
2. Provide appropriate information	2.1 Deal with enquiries promptly and courteously 2.2 Confirm details of enquiry by questioning and summarising 2.3 Organise information clearly, concisely and logically 2.4 Provide information relevant to request in a timely manner and in a form that is appropriate and easily understood 2.5 Redirect enquiries to relevant personnel for resolution where outside the own area of responsibility
3. Give and follow routine instructions	3.1 Give accurate, clear and concise instructions that are appropriate for the receiver 3.2 Interact with others in an efficient, effective, responsive, courteous and supportive manner 3.3 Confirm that instructions are understood 3.4 Follow prescribed and routine work-related sequences
4. Provide reports	4.1 Complete all workplace documentation and reports clearly and accurately 4.2 Report all relevant information clearly and concisely

Foundation Skills

This section describes those language, literacy, numeracy and employment skills that are essential to performance.

- Reading skills to interpret workplace information.
- Writing skills to complete workplace documents and reports.
- Oral communication skills to interact with others and provide information.

Other foundation skills essential to performance are explicit in the performance criteria of this unit of competency.

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Unit Mapping Information

Release 2. Supersedes and is equivalent to MSAPMSUP210A Process and record information.

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Assessment Requirements for MSMSUP210 Process and record information

Modification History

Release 2. Equivalent. Minor edits for improved clarity. Foundation skills specified. Range of conditions removed. Duplication between Performance Evidence and Performance Criteria removed. Assessment conditions updated.

Release 1. Supersedes and is equivalent to MSAPMSUP210A Process and record information.

Performance Evidence

There must be evidence the candidate has completed the tasks outlined in the elements and performance criteria of this unit, and:

- processed and recorded workplace and technical information in response to at least 1 enquiry.
-

Knowledge Evidence

There must be evidence the candidate has knowledge of:

- organisational procedures, including those covering:
  - data systems and data security
  - record keeping
  - privacy
  - intellectual property (IP)
  - use of internet
- types and meaning of workplace codes, numbers, symbols, signs and colours typically used in the role or work environment
-

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:
  - workplace documentation, forms and reports
  - workplace record keeping, privacy and data security procedures.

Assessors must satisfy the NVR/AQTF mandatory competency requirements for assessors.

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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

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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

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		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

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- 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

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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.

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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.

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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**
Elements describe the essential *outcomes.*	*Performance criteria describe the performance needed to demonstrate achievement of the element.*
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

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Elements	**Performance Criteria**
Elements describe the essential *outcomes.*	*Performance criteria describe the performance needed to demonstrate achievement of the element.*
	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.

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Unit Mapping Information

Release 2. Supersedes and is equivalent to MSAPMSUP240A Undertake minor maintenance.

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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:

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- maintenance documentation, guidelines, procedures and schedules, including data and plant records
- maintenance tools and equipment, including personal protective equipment (PPE).

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MSMSUP273 Handle goods

Modification History

Release 1. Supersedes and is equivalent to MSAPMSUP273A Handle goods

Application

This unit of competency covers the skills and knowledge required to receive and despatch products and/or materials from either internal or external sources as an adjunct to the job of making product.

It applies to operators who are required to receive and process orders, maintain records, identify and select goods to be despatched and ensure they are despatched to the correct location.

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.

This unit of competency focuses on processing goods to be despatched and/or received. The person undertaking this role may require additional competencies to cover the operation of forklift trucks or other regulated load shifting devices.

This competency is NOT intended for people who, as a major function, operate a store or warehouse. For these people warehousing units of competency 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

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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 work requirements**	1.1	Read and interpret documentation
		1.2	Identify required schedules for receipt or despatch
		1.3	Identify correct product/material
		1.4	Identify potential problems and required action/solution
		1.5	Plan work sequence using workplace and product knowledge
		1.6	Select appropriate materials handling equipment as required
		1.7	Identify work health and safety (WHS) requirements
2	**Prepare for receiving or despatching goods**	2.1	Select and check goods for receiving/despatch against product/material knowledge, labels and other identification systems
		2.2	Sort, assemble and consolidate products as necessary
		2.3	Secure order and place in storage areas in accordance with schedule
		2.4	Check order against receiving/despatch schedule and order form
3	**Move materials into/out of storage or to/from production**	3.1	Check paperwork and identity of materials
		3.2	Check for completeness and/or damage
		3.3	Take action on non-conforming products/materials
		3.4	Move products/materials safely
		3.5	Store materials safely as required

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		3.6	Resolve routine problems that arise in accordance with procedures
4	**Complete materials movement records**	4.1	Complete materials movement records (in or out)
		4.2	Update records as required
		4.3	Complete other paperwork and records as required

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:

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- 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

Documentation and records

Documentation and records include:

- any information and data in relation to despatch, receipt, movement and storage of goods whether it is manual, paper-based, electronic or verbal, either in person or by phone/radio, and includes one or more of the following:
  - order requests
  - invoices
  - picking slips
  - labels
  - transportation requirements
  - bills of materials
  - inventory lists
  - databases

Tools and equipment

Tools and equipment include one or more of the following:

- mobile plant/fork lifts
- manual handling equipment
- hand tools
- shrink wrappers
- tape machine labellers
- loose bulk packing equipment
- computers and bar code readers
- bag filling equipment
- pallets
- wrapping machines
- personal protective equipment (PPE)
- distribution equipment, such as A-frames, stillages, containers, elevated platforms and communication equipment

Hazards

Hazards include one or more of the following:

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- inappropriate movements and postures
- manual handling hazards
- heat, smoke, dust or other atmospheric hazards
- electricity
- gas
- gases and liquids under pressure
- equipment failures
- industrial (machinery, equipment and product)
- equipment or product mass
- noise, rotational equipment or vibration
- 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 resolved by applying known solutions.

Routine problems are predictable and include one or more of the following:

- special storage requirements, including moisture and contamination control
- compatibility of goods in loads and in storage
- handling of incomplete loads (either in or out)
- handling of materials which do not meet specifications
- conflicting priorities
- incomplete or incorrect paperwork
- product requirements
- job priority
- product/material variations

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.

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Unit Mapping Information

Release 1. Supersedes and is equivalent to MSAPMSUP273A Handle goods

Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=d1287d36-dff4-4e9f-ad2c-9d6270054027

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Assessment Requirements for MSMSUP273 Handle goods

Modification History

Release 1. Supersedes and is equivalent to MSAPMSUP273A Handle goods

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 and select goods to be moved in accordance with documentation
- apply known solutions to routine problems
- prepare and organise goods to be moved to fit with schedules
- select and use handling equipment
- read and interpret product specifications, job sheets, procedures, material labels and safety information
- complete documentation and records
- apply appropriate safety precautions and procedures.

Knowledge Evidence

Evidence must be provided that demonstrates knowledge of:

- organisation procedures, including:
  - safety, emergency and hazard control
  - inventory and ordering systems
- types and application of handling equipment and any licensing requirements
- manual handling techniques and ergonomics
- safe storage of dangerous goods and hazardous materials
- transport requirements and restrictions for products/materials
- production workflow requirements.

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

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  - 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 part but not all 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

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MSMSUP280 Manage conflict at work

Modification History

Release 1. Supersedes and is equivalent to MSAPMSUP280A Manage conflict at work

Application

This unit of competency covers the skills and knowledge required to manage conflict in a range of personal conflict situations.

This unit of competency applies to personnel who are required to liaise and cooperate with other members of the team and to work towards finding common ground and opportunities for problem resolution. It applies to any interactions in the workplace, including interactions between co-workers, between staff and customer/client, and between staff and supervisor.

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.

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

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1	**Identify potential sources of conflict**	1.1	Identify actions which are likely to promote a reaction in others
		1.2	Assess the other person's needs and/or concerns
		1.3	Assess own ability to respond to the other person's needs
		1.4	Recognise possible causes of conflict
		1.5	Identify potential conflict situations
2	**Identify range of alternative approaches**	2.1	Discuss with the other person their needs and concerns
		2.2	Identify own needs and concerns and discuss with other person
		2.3	Identify possible approaches through which the needs and concerns of both may be met
		2.4	Develop a range of alternative approaches for achieving goals
3	**Resolve conflicts**	3.1	Identify areas of common ground or objectives that can be mutually supported
		3.2	Agree on an approach which will meet the majority of objectives for both parties
		3.3	Implement the approach
		3.4	Check that the agreed requirements are being met and that conflict has been resolved
4	**Respond to problems**	4.1	Identify possible problems in the conflict management process
		4.2	Determine problems needing action
		4.3	Determine possible causes
		4.4	Rectify problem using appropriate solution within area

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of responsibility

4.5 Follow through items initiated until final resolution has occurred

4.6 Report problems outside area of responsibility to designated person

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.

Conflict

Conflict in the context of this unit refers to interpersonal conflict and may arise in any work-related context.

Potential sources of conflict

Potential sources of conflict include conflicts arising from one or more of the following:

- different learning/problem solving styles
- different work or personal priorities
- different personality styles
- conflicting key performance indicators (KPIs), work goals or targets
- different social, cultural, religious or ethnic background or different gender of sexual preference
- different interpretation of requirements or ‘the rules’

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Approaches to resolving conflict

Approaches to resolving conflict will be based on direct communication and include one or more of the following:

- informal, face-to-face discussions
- formal/structured face-to-face discussions
- through the use of:
  - telephones and two-way radios
  - memos, faxes, letters or emails

Routine problems

Routine problems must be resolved by applying known solutions.

Routine problems are predictable and include one or more of the following:

- anger or aggression arising from industrial relations matters
- disagreements over processes or work practices
- variations in opinions about circumstances or events
- interpersonal disputes arising from changes in personal circumstances

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 MSAPMSUP280A Manage conflict at work

Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=d1287d36-dff4-4e9f-ad2c-9d6270054027

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Assessment Requirements for MSMSUP280 Manage conflict at work

Modification History

Release 1. Supersedes and is equivalent to MSAPMSUP280A Manage conflict at 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 and demonstrate the ability to:
- recognise situations, actions and verbal and non-verbal communication that indicate potential or actual conflict
- communicate about needs and concerns of self and others and areas of common ground using:
  - appropriate verbal and non-verbal communication
  - statements that focus on issues and facts, not people and personalities
  - accurate reflection of people's needs and concerns
- implement conflict resolution approach and monitor its success
- apply known solutions to routine problems

manage conflict as it arises.

Knowledge Evidence

Evidence must be provided that demonstrates knowledge of:

- likely sources of conflict in own job/workplace
- indicators of potential conflict
- communication approaches to resolving conflict
- conflict resolution skills relevant to own job/workplace.

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 use one or a combination of:
    - totally off the job, in which case it will use case studies and role plays as well as questions
    - evidence drawn totally from performance in the workplace

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  - 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
  - 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

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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

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1	**Identify customers and suppliers**	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**	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**	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**	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.

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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

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- 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

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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

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  - 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

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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

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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.

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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

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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

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    - 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

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MSMSUP300 Identify and apply process improvements

Modification History

Release 2. Equivalent. Minor edits for improved clarity. Range of conditions removed. Duplication between Performance Evidence and Performance Criteria removed. Assessment conditions updated.

Release 1. Supersedes and is equivalent to MSAPMSUP300A Identify and implement opportunities to maximise production efficiencies.

Application

This unit covers the skills and knowledge required to identify, monitor and participate in strategies to improve production efficiencies.

This unit applies to all work environments and all operators across all functions, including experienced team leaders or supervisors, who are required to provide input into process improvement initiatives for a team or work area.

This unit applies to a wide range of processes and equipment. In large plants with multiple processes, it may apply to more than one process if those processes interact with each other.

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**
Elements describe the essential *outcomes.*	*Performance criteria describe the performance needed to demonstrate achievement of the element.*
1. Determine issues that affect process efficiency	1.1 Investigate issues affecting output and quality 1.2 Determine potential and/or actual sources of wastage 1.3 Identify or develop appropriate performance measurement indicators

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Elements	**Performance Criteria**
Elements describe the essential *outcomes.*	*Performance criteria describe the performance needed to demonstrate achievement of the element.*
	1.4 Identify hazards and required controls associated with the process
2. Monitor and measure process efficiency	2.1 Monitor performance of process or equipment or raw material usage 2.2 Identify variations and divergence from trends 2.3 Identify factors inhibiting process efficiency
3. Participate in developing strategies for improving process efficiencies	3.1 Analyse problems and areas for improvement in process efficiencies 3.2 Utilise appropriate problem-solving tools and techniques for identifying areas for improvement 3.3 Identify and take into account external factors 3.4 Identify required changes to process, standards and procedures 3.5 Recommend strategies for improvement to relevant personnel
4. Participate in applying process improvement strategies	4.1 Implement strategies to improve process efficiency 4.2 Monitor performance of changes 4.3 Evaluate results of changes 4.4 Report results 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 MSAPMSUP300A Identify and implement opportunities to maximise production efficiencies.

Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=d1287d36-dff4-4e9f-ad2c-9d6270054027

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Assessment Requirements for MSMSUP300 Identify and apply process improvements

Modification History

Release 2. Equivalent. Minor edits for improved clarity. Range of conditions removed. Duplication between Performance Evidence and Performance Criteria removed. Assessment conditions updated.

Release 1. Supersedes and is equivalent to MSAPMSUP300A Identify and implement opportunities to maximise production efficiencies.

Performance Evidence

There must be evidence the candidate has completed the tasks outlined in the elements and performance criteria of this unit, and:

- identified process efficiency issues, recommended improvements and contributed to the development, implementation and review of improvement strategies
-

Knowledge Evidence

There must be evidence the candidate has knowledge of:

- duty of care
- organisation procedures
- information systems and data collation
- process inefficiencies
- measures of process efficiency
- problems and hazards that may arise in the work role and work environment, including:
  - their possible causes
  - potential consequences
  - appropriate risk controls
- 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. The following conditions must be met for this unit:

- use of suitable facilities, equipment and resources, including:
  - workplace documentation, forms and production reports

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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

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MSMSUP301 Apply HACCP to the workplace

Modification History

Release 1. Supersedes and is equivalent to MSAPMSUP301A Apply HACCP to the workplace

Application

This unit of competency covers the skills and knowledge required to apply the hazard analysis and critical control point (HACCP) principles to the manufacture of products to be used in contact with food, beverages, pharmaceuticals or similar situations.

It applies to senior operators who are required to use a HACCP-based approach to analyse food, beverage or pharmaceutical safety risks, define controls and corrective action procedures, and ensure the system is working effectively.

The operator will have detailed operational and process knowledge but is not required to demonstrate 'hands on' operation of equipment as part of this competency.

HACCP is an internationally recognised systematic approach to identifying and controlling food and related safety hazards.

Related acronyms are used in this competency:

- CCP - critical control points
- CCF - critical control factors
- CCL - critical control limits
- HAT - hazard analysis table.

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 where the product comes into contact with food, beverages or pharmaceuticals or otherwise requires 'food standards' to be maintained.

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

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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	Apply a HAT to an existing process	1.1	Identify CCPs
		1.2	Recognise CCFs which are outside of or approaching CCLs
		1.3	Describe hazard related to CCFs and CCLs
		1.4	Implement corrective action in accordance with HAT
2	Develop/modify a HACCP	2.1	Conduct a hazard analysis
		2.2	Determine the CCPs
		2.3	Establish critical limits
		2.4	Establish/modify a system to monitor control of the CCPs
		2.5	Establish the corrective action to be taken when monitoring indicates that a particular CCP is not under control
		2.6	Establish procedures for verification to confirm that the HACCP system is working effectively
		2.7	Establish/modify documentation concerning all procedures and records appropriate to these principles and their application.

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3	Interpret HACCP/HAT to another worker	3.1	Explain the purpose and rationale of HACCP
		3.2	Identify CCPs, CCFs and CCLs
		3.3	Describe indicators of CCFs not within their CCLs
		3.4	Describe impact of non-conformances
		3.5	Demonstrate corrective action
		3.6	Monitor worker implementing HACCP in their job

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:

- Codex Alimentarius
- 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

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form, and include one or more of the following:

- 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.

Hazards

Hazards include one or more of the following:

- biological
- chemical
- physical
- product contamination
- material contamination
- methods/routes of exposure and contamination

Non-routine problems

Non-routine problems must be resolved by applying operational knowledge to develop new solutions, either individually or in collaboration with relevant experts to:

- determine problems needing action
- determine possible fault causes
- develop solutions to problems which do not have a known solution
- follow through items initiated until final resolution has occurred
- report problems outside area of responsibility to designated person

Non-routine problems are unexpected problems, or variations of previous problems and include one or more of the following

- recognising CCFs approaching the CCLs
- determining corrective action from HAT
- applying HACCP principles to situations not directly covered by HAT
- recognising the need for a new/modified HACCP/HAT
- modifying HACCP/HAT to meet changes circumstances

Operational knowledge includes one or more of the following:

- procedures
- training
- technical information, such as journals and engineering specifications

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- remembered experience
- relevant knowledge obtained from appropriate people

Unit Mapping Information

Release 1. Supersedes and is equivalent to MSAPMSUP301A Apply HACCP to the workplace

Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=d1287d36-dff4-4e9f-ad2c-9d6270054027

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Assessment Requirements for MSMSUP301 Apply HACCP to the workplace

Modification History

Release 1. Supersedes and is equivalent to MSAPMSUP301A Apply HACCP to the workplace

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:

- recognise HACCP/HAT issues and take appropriate corrective action
- analyse process and material variations in terms of the HACCP and determine appropriate actions
- apply HACCP principles to develop a new and/or modify and existing HACCP as part of a team
- communicate effectively with relevant personnel to convey technical information
- apply operational knowledge to non-routine problems
- write technical reports and HACCP/HAT tables
- interpret quantitative data, make comparisons and interpretations.

Knowledge Evidence

Evidence must be provided that demonstrates knowledge of:

- 'seven principles' of HACCP
- importance of CCPs, CCFs and CCLs
- relevance of HAT to routine production
- impacts of variations in materials, process and product on HACCP.

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 HACCP tools in the workplace

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  - may use industry-based simulation for part only 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
  - 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

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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

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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	1.1	Identify and classify equipment components and operating systems
		1.2	Match appropriate checks and procedures to the equipment operating systems
		1.3	Identify special checking procedures and parameters in manufacturer specifications and procedures
		1.4	Identify sources of information and data relevant to key variables
		1.5	Identify and control hazards
		1.6	Observe and undertake checks on the physical condition of equipment in accordance with procedures
		1.7	Record preliminary observations
		1.8	Discuss checking procedures with appropriate personnel and obtain necessary permission where required
2	Plan operational checks	2.1	Check specifications and notes from preliminary observations and identify areas to be clarified
		2.2	Plan sequence for checks, noting areas where results and observations should be recorded
		2.3	Ensure area is safe for operational check
		2.4	Make arrangements for any additional resources, including other employees
3	Check unit through full	3.1	Undertake operational checks observing relevant safety and operational requirements

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	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

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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

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- 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

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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

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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.

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- 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

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MSMSUP309 Maintain and organise workplace records

Modification History

Release 1. Supersedes and is equivalent to MSAPMSUP309A Maintain and organise workplace records

Application

This unit of competency covers the skills and knowledge required to maintain workplace records in paper, electronic or other form. Sample products or materials for testing or quality purposes may also form part of the records system.

This unit of competency applies to personnel who are required to process records, track location of records, apply security controls and respond to requests for information.

Work is governed by established workplace procedures and extent of authority for adjustments and other work activities are defined.

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.

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

Pre-requisite Unit

Nil

Competency Field

Support

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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 records to be stored	1.1	Classify records to be maintained in relation to customer requirements, quality system or production requirements
		1.2	Identify requirements for completion of workplace records in accordance with workplace procedures
		1.3	Record and collate information ensuring appropriate information and any samples are included in an appropriate manner
2	Maintain filing arrangements	2.1	Identify organisation system for records
		2.2	Categorise and file records following workplace conventions
		2.3	Deal with obsolete or non-conforming records following workplace procedures
		2.4	Identify problems and take appropriate action
3	Respond to information requests	3.1	Interpret requests for information and prioritise
		3.2	Locate and provide information requested within required workplace policies and timeframes
		3.3	Collate information as required according to procedures
4	Organise file movements	4.1	Identify files to be relocated
		4.2	Confirm logistics of relocation
		4.3	Ensure files are relocated as organised
		4.4	Complete records of movement and file following

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			workplace procedures
5	Maintain security of workplace records	5.1	Identify security requirements for workplace records
		5.2	Maintain security arrangements for files
		5.3	Notify (any) security breaches to appropriate 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.

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)

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- formulas/recipes
- batch sheets
- temporary instructions
- any similar instructions provided for the smooth running of the plant

Records

Records will be specified in the organisation's record keeping processes and procedures and include one or more of the following:

- hard copy, such as documents, images, reports and forms
- electronic, such as documents, images, reports, forms, databases and spreadsheets
- physical, such as samples of products or materials

Non-routine problems

Non-routine problems must be resolved by applying operational knowledge to develop new solutions, either individually or in collaboration with relevant experts to:

- determine problems needing action
- determine possible fault causes
- develop solutions to problems which do not have a known solution
- follow through items initiated until final resolution has occurred
- report problems outside area of responsibility to designated person

Non-routine problems are unexpected problems, or variations of previous problems and include one or more of the following:

- lost files
- misfiling
- poor controls
- insufficient space/storage facilities
- incorrect destruction of records

Operational knowledge includes one or more of the following:

- procedures
- training
- technical information, such as journals and engineering specifications
- remembered experience
- relevant knowledge obtained from appropriate people

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Unit Mapping Information

Release 1. Supersedes and is equivalent to MSAPMSUP309A Maintain and organise workplace records

Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=d1287d36-dff4-4e9f-ad2c-9d6270054027

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Assessment Requirements for MSMSUP309 Maintain and organise workplace records

Modification History

Release 1. Supersedes and is equivalent to MSAPMSUP309A Maintain and organise workplace records

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:

- collate and file information, records and related materials according to record keeping, filing and security requirements
- prioritise and respond to requests for information from records and/or files to be relocated
- identify and locate records
- apply operational knowledge to non-routine problems
- complete workplace forms and records
- read and interpret procedures, work instructions, forms and records.

Knowledge Evidence

Evidence must be provided that demonstrates knowledge of:

- organisational procedures, including those covering:
  - data systems and data security
  - record keeping
  - privacy
  - intellectual property (IP)
- record retention schedules and record destruction 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
  - 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

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    - must include the use of appropriate equipment/systems 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

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MSMSUP310 Contribute to the development of workplace documentation

Modification History

Release 1. Supersedes and is equivalent to MSAPMSUP310A Contribute to the development of plant documentation

Application

This unit of competency covers the skills and knowledge required to develop workplace documentation in response to identified information requirements. Develop covers ‘develop from scratch’ or ‘take existing and improve’.

This unit of competency applies to experienced operators, leading hands, supervisors and similar personnel who are required to determine what needs to be done, develop the existing or new workplace documentation and apply document control.

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 as appropriate.

This unit of competency applies to all work environments and sectors within the industry.

Work is governed by established workplace procedures, and extent of authority for drafting/document approval.

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

Pre-requisite Unit

Nil

Competency Field

Support

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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 information need/ deficiency	1.1	Determine the information needs of the organisation
		1.2	Evaluate current documentation
		1.3	Recognise information need/deficiency
		1.4	Discuss information needs with appropriate personnel
		1.5	Identify purpose of, and target audience for, documentation
2	Develop workplace documentation	2.1	Specify information need and set/prioritise objectives
		2.2	Analyse existing documentation/records for compliance with identified needs
		2.3	Develop draft documentation in required format
		2.4	Issue draft documentation to appropriate personnel for review
		2.5	Edit documentation and amend in accordance with review feedback
		2.6	Complete documentation to satisfy the initial identified need/deficiency
		2.7	Check document complies with required template and document control procedures
3	Communicate changes to workplace documentation	3.1	Explain need for revised/new documentation to all relevant personnel
		3.2	Distribute documentation to all appropriate personnel
		3.3	Evaluate effectiveness of documentation.

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3.4 Amend documentation if required

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:

- document control procedures and style sheets
- 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

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Documentation Documentation includes one or more of the following:

- maintenance logs
- non-compliance reports
- incidence and accident reports
- permits
- schematics/process flows/engineering drawings
- job cards
- SOPs
- work instructions
- operating manuals
- quality procedures
- training program contents
- material safety data sheets (MSDS)

Unit Mapping Information

Release 1. Supersedes and is equivalent to MSAPMSUP310A Contribute to the development of plant documentation

Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=d1287d36-dff4-4e9f-ad2c-9d6270054027

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Assessment Requirements for MSMSUP310 Contribute to the development of workplace documentation

Modification History

Release 1. Supersedes and is equivalent to MSAPMSUP310A Contribute to the development of plant documentation

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:

- communicate with other personnel to:
  - determine the need for and purpose of documentation development and/or amendment
  - identify specifications and format to be used
  - identify target audience
  - communicate and evaluate changes to documentation
- identify and evaluate current documentation
- convey information clearly and concisely in writing using language and structure suitable for the purpose and target audience
- apply procedures for drafting, review and revision of documentation
- apply document control.

Knowledge Evidence

Evidence must be provided that demonstrates knowledge of:

- organisational procedures, including those covering:
  - data systems and data security
  - record keeping
  - privacy
  - intellectual property (IP)
  - document control and approvals
  - style guides and standards for documentation
  - use of internet
  - relevant standard operating procedures (SOPs)
- writing styles, including:
  - plain or technical English
  - short/simple sentences, or well developed arguments
  - dot points or use of paragraphs
  - appropriate inclusion of graphics

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- sections and headings or other navigational tools
- logical sequencing of information
- distinguishing between relevant and peripheral issues
- planning, drafting and editing own work.

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 is best done from a report and/or folio of evidence drawn from work activities, which together provide sufficient evidence of the requirements of all the elements and performance criteria.
- A third-party report, or similar, may be needed to testify to the work done by the individual, particularly when the project has been done as part of a project team.
- Assessment should occur in operational workplace situations. Where this is not possible or practical 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 may use industry-based simulation for all or part of the unit where the use of real experience is not practicable.
- Assessment in a simulated environment should use evidence collected from one or more of:
  - 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

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MSMSUP330 Develop and adjust a production schedule

Modification History

Release 1. Supersedes and is equivalent to MSAPMSUP330A Develop and adjust a production schedule

Application

This unit of competency covers the skills and knowledge required to plan, schedule and prioritise production to meet operational requirements.

This unit of competency applies to experienced operators, team leaders or similar who are required to optimise plant production and costs of production using daily and weekly run plan guidelines/production schedules.

The person will have detailed operational and process knowledge but is not required to demonstrate 'hands on' operation of equipment as part of this competency.

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.

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

Pre-requisite Unit

Nil

Competency Field

Support

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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 resources to meet production requirements	1.1	Determine demand for product
		1.2	Access and verify information on orders, stocks and delivery
		1.3	Determine plant/production equipment capacity
		1.4	Determine material requirements
		1.5	Determine human resource requirements
		1.6	Identify and control hazards
2	Develop schedules	2.1	Determine production priorities
		2.2	Identify production opportunities ('windows')
		2.3	Develop production schedules in accordance with procedures taking account of health, safety and environment (HSE) requirements
		2.4	Communicate and distribute production schedules to appropriate personnel
3	Monitor production schedules	3.1	Monitor production output against schedule
		3.2	Identify variations between production and schedule
		3.3	Record operational variation and discuss with appropriate personnel
		3.4	Identify possible cause of variation
4	Adjust schedules	4.1	Adjust schedules in response to operational variation

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4.2 Adjust schedules in response to unexpected events

4.3 Distribute adjusted/amended schedules to appropriate personnel

4.4 Maintain product output in accordance with production and HSE requirements

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

All operations are subject to stringent HSE requirements, which may be imposed through state/territory or federal legislation, and these must not be compromised at any time. Where there is an apparent conflict between performance criteria and HSE requirements, the HSE requirements take precedence.

Procedures

All operations must be performed in accordance with relevant procedures.

Procedures are written, verbal, visual, computer-based or in some other form,

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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

Hazards Hazards include one or more of the following:

- 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

Unit Mapping Information

Release 1. Supersedes and is equivalent to MSAPMSUP330A Develop and adjust a production schedule

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Assessment Requirements for MSMSUP330 Develop and adjust a production schedule

Modification History

Release 1. Supersedes and is equivalent to MSAPMSUP330A Develop and adjust a 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 must include the ability to:

- identify production objectives, priorities, targets and resource requirements
- plan, sequence and schedule production taking account of health, safety and environment (HSE) priorities
- monitor and adjust schedules in response to operational variations
- communicate effectively with other personnel.

Knowledge Evidence

Evidence must be provided that demonstrates knowledge of:

- organisation procedures
- hazards that may arise in the job/work environment, including:
  - their possible causes
  - potential consequences
  - appropriate risk controls
  - hierarchy of control
- customer and quality requirements
- routine and non-routine causes of production variation
- relevant equipment and operational processes
- types of adjustments that can be made and their likely impact on process/plant efficiencies and production outcomes/targets.

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

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  - 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

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MSMSUP382 Provide coaching/mentoring in the workplace

Modification History

Release 2. Equivalent. Minor edits for improved clarity. Range of conditions removed.

Release 1. Supersedes and is equivalent to MSAPMSUP382A Provide coaching/mentoring in the workplace.

Application

This unit describes the skills and knowledge required to establish and provide one-to-one coaching and/or mentoring in the workplace and evaluate its effectiveness.

This unit applies to senior operators, team leaders or personnel who have significant workplace experience and who are required to use interpersonal skills to provide coaching and mentoring within their area of expertise to assist an employee to identify and meet his/her development needs.

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 applies to all work environments.

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**
Elements describe the essential *outcomes.*	*Performance criteria describe the performance needed to demonstrate achievement of the element.*
1. Establish coaching or mentoring relationship	1.1 Identify areas for development in line with organisation and individual's requirements 1.2 Use effective communication styles to develop trust, confidence and

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Elements	**Performance Criteria**
Elements describe the essential *outcomes.*	*Performance criteria describe the performance needed to demonstrate achievement of the element.*
	rapport 1.3 Discuss and clarify expectations and goals 1.4 Agree together on how the relationship will be conducted 1.5 Seek input from other relevant personnel
2. Provide coaching or mentoring support	2.1 Assist the individual to identify and evaluate opportunities to achieve agreed goals and development activities 2.2 Share personal experiences and knowledge with the individual to assist in progress to agreed goals and development 2.3 Provide a supportive environment to allow the individual to develop towards the achievement of goals 2.4 Encourage the individual to make decisions and take responsibility for the courses of actions or solutions under consideration 2.5 Provide assistance and guidance in a manner which allows the individual to retain responsibility for achievement in their goals 2.6 Identify problems inhibiting the individual from achieving their goals and take appropriate action
3. Evaluate effectiveness of coaching or mentoring	3.1 Monitor the relationship and progress of the individual 3.2 Recognise and openly discuss changes in the coaching or mentoring relationship 3.3 Make adjustments to the relationship to take account of the needs of both the mentor or coach and the individual 3.4 Seek feedback from individual and other relevant personnel to identify and implement improvements

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.

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Unit Mapping Information

Release 2. Supersedes and is equivalent to MSAPMSUP382A Provide coaching/mentoring in the workplace.

Links

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Assessment Requirements for MSMSUP382 Provide coaching/mentoring in the workplace

Modification History

Release 2. Equivalent. Minor edits for improved clarity. Range of conditions removed.

Release 1. Supersedes and is equivalent to MSAPMSUP382A Provide coaching/mentoring 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:

- provided coaching or mentoring to at least 1 individual, including using interpersonal skills to:
  - build rapport, trust and respect with individual
  - facilitate identifying the individual's development goals
  - facilitate identifying solutions and actions
  - encourage and support the individual to develop towards the achievement of goals
  - assist the individual to make decisions about achieving goals
- evaluated outcomes of coaching process to ensure the individual is achieving goals.
-

Knowledge Evidence

There must be evidence the candidate has knowledge of:

- types of interpersonal skills and application to coaching and mentoring, including:
  - building rapport, trust and respect
  - verbal and non-verbal communications
  - questioning, listening and reflecting
  - self-disclosure
  - giving and accepting feedback
  - establishing a safe environment for open communication
- relevance and application of skills development techniques, including:
  - one-on-one training using explanation and demonstration
  - use of supporting materials in written, visual or other format
  - facilitation and guidance of self-directed learning
  - identifying needs and setting goals
- sources of information for self-directed learning, including:

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    - networking
    - industry journals
    - internet
    - organisation knowledge, learning systems and databases
- relevant career paths and competency standards in the organisation.
- relationship issues requiring Agreement:
    - the amount of time involved for both parties
    - confidentiality of information
    - identification of development opportunities
    - development plan towards achieving goals
- problems that can inhibit the individual from achieving their goals:
    - interpersonal skills
    - communication skills
    - technical skills
    - foundation skills
    -

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

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MSMSUP383 Facilitate a team

Modification History

Release 1. Supersedes and is equivalent to MSAPMSUP383A Facilitate a team

Application

This unit of competency covers the skills and knowledge required to facilitate team communications and performance to achieve its goals.

This unit of competency applies to team leaders or similar roles within a team structure who are required to facilitate processes to identify team goals and timelines, plan and organise activities, support performance and resolve conflicts.

This unit of competency requires the use of a range of well-developed skills requiring some discretion and judgement to recognise and resolve a range of problems.

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

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1	**Identify tasks to achieve team goals**	1.1	Identify and agree on team goals with team members input
		1.2	Identify tasks required to achieve team goals
		1.3	Identify team and individual safety responsibilities
		1.4	Allocate responsibilities of individuals within the team
		1.5	Ensure designated team goals are met by identifying strategies and timelines required to complete each task
2	**Organise allocation of tasks**	2.1	Estimate time and resources needed to complete tasks
		2.2	Identify competencies of individual team member and allocate/negotiate individual responsibilities
		2.3	Agree timelines for completion of each task
		2.4	Identify resources and support necessary for completion of job
3	**Monitor completion of allocated tasks**	3.1	Measure team performance against its goals
		3.2	Monitor individual compliance with procedures and take action as required
		3.3	Check at regular intervals, and apply judgement to determine whether agreed timelines for completion of tasks will be met
		3.4	Negotiate alternative strategies, within delegated discretion, to achieve allocated tasks when designated timelines are not being met
		3.5	Provide support to colleagues to ensure completion of allocated tasks
4	**Resolve team problems**	4.1	Identify problem situations for team
		4.2	Identify causes of problem
		4.3	Implement problem resolution procedures relevant to the problem and to established practices

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4.4 Seek assistance as required to ensure problem resolution

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

Identifying

Team goals will be identified from workplace documentation, including one

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team goals or more of the following:

- procedures
- material safety data sheets (MSDS)
- job cards
- maintenance logs
- plant drawings
- daily nominations
- tool box meeting
- sales/marketing request
- memos, faxes and emails identifying output or other goals

Problems Problems include one or more of the following:

- conflict between the team members
- conflict between different team goals
- current process capacity/capability will not allow achievement of goals
- conflict between work teams and/or the achievement of their goals
- availability of resources (people, time, plant/equipment, finances and materials)

Unit Mapping Information

Release 1. Supersedes and is equivalent to MSAPMSUP383A Facilitate a team

Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=d1287d36-dff4-4e9f-ad2c-9d6270054027

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Assessment Requirements for MSMSUP383 Facilitate a team

Modification History

Release 1. Supersedes and is equivalent to MSAPMSUP383A Facilitate a team

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 workplace documentation to identify team goals
- use interpersonal skills to:
  - build rapport, trust and respect with individuals who have diverse work styles, aspirations, cultures and perspectives
  - facilitate team agreement on team and individual goals, timelines and allocation of tasks
  - encourage and support team members to work towards the achievement of goals
  - assist individual to make decisions about achieving goals
- facilitate processes to support team performance, including:
  - planning of team's activities
  - monitoring progress towards goals
  - taking corrective action
- identify and take appropriate action on problems and potential problems.

Knowledge Evidence

Evidence must be provided that demonstrates knowledge of:

- types of interpersonal skills and application to team performance, including:
  - building rapport, trust and respect
  - verbal and non-verbal communication
  - questioning, listening and reflecting
  - giving and accepting feedback
  - establishing a safe environment for open communications
- impact of individual tasks on the completion of team objectives
- conflict resolution techniques
- capacity/capability of the equipment/process
- relevant equipment and operational processes
- targets and measures for production output and quality.

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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 appropriate demonstration of team facilitation using workplace situations, procedures and practices
  - 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
  - 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.

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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**
Elements describe the essential *outcomes.*	*Performance criteria describe the performance needed to demonstrate achievement of the element.*
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

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Elements	**Performance Criteria**
Elements describe the essential *outcomes.*	*Performance criteria describe the performance needed to demonstrate achievement of the element.*
	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

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Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=d1287d36-dff4-4e9f-ad2c-9d6270054027

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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.

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Assessors must satisfy the NVR/AQTF mandatory competency requirements for assessors.

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MSMSUP400 Develop and monitor quality systems

Modification History

Release 1. Supersedes and is equivalent to MSAPMSUP400A Develop and monitor quality systems

Application

This unit of competency covers the skills and knowledge required to establish, implement, maintain and evaluate quality systems for a complete production area and/or plant.

This unit of competency applies to experienced technicians, leading hands, supervisors or people in similar roles who are required to develop quality procedures, processes and supporting documentation, ensure resources are available and evaluate and improve the system.

This unit of competency applies to an individual working alone or as part of a team/work group and working in liaison with other team members as appropriate.

This unit of competency applies to a wide range of processes and equipment in all work environments and sectors in manufacturing.

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

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1	**Establish and maintain framework for successful quality system**	1.1	Identify organisation goals and practices relevant to quality system
		1.2	Develop relevant procedures which demonstrate the commitment of the enterprise to quality and a culture of improvement
		1.3	Define and allocate responsibilities in quality system
		1.4	Consult with key personnel to define role of procedures in the quality system
		1.5	Seek financial and human resources to allow thorough implementation of quality system
		1.6	Develop system for communicating quality message and culture in the organisation
2	**Establish and maintain quality documentation system**	2.1	Identify quality documentation required, including records of improvement plans and initiatives
		2.2	Prepare and maintain quality documentation and keep data records
		2.3	Maintain document control system
3	**Implement structured training program in accordance with quality system requirements**	3.1	Analyse roles and duties of relevant personnel
		3.2	Identify training needs in relation to quality
		3.3	Identify training programs to meet these needs
		3.4	Arrange for the training program to be implemented
		3.5	Develop and maintain training records
4	**Evaluate the quality system**	4.1	Undertake regular audits of the quality system, its policies and procedures
		4.2	Develop new procedures/work instructions as required.
		4.3	Implement improvements in the quality system

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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:

- ISO 9000 Series, ISO 10000 Series (or other relevant standard)
- 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

Quality

The quality system must reflect the organisation’s goals, be compliant with

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system the relevant quality standard and include:

- quality plan
- quality management systems (QMS)
- roles and responsibilities of management and other personnel
- evaluating the QMS and continuous improvement

Unit Mapping Information

Release 1. Supersedes and is equivalent to MSAPMSUP400A Develop and monitor quality systems

Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=d1287d36-dff4-4e9f-ad2c-9d6270054027

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Assessment Requirements for MSMSUP400 Develop and monitor quality systems

Modification History

Release 1. Supersedes and is equivalent to MSAPMSUP400A Develop and monitor quality 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 demonstrate the ability to:

- communicate with relevant personnel to:
  - identify resource requirements and training needs for the quality system
  - define and allocate roles
  - develop quality procedures and documentation
  - implement the quality system
- undertake audits of the system and implement improvements based on audit results
- write procedures and develop forms.

Knowledge Evidence

Evidence must be provided that demonstrates knowledge of:

- organisation procedures, including those covering:
  - safety, emergency and hazard controls
  - standard operating procedures
  - record keeping
- business goals and key performance indicators (KPIs) and how they relate to quality system
- targets and measures for production output and quality
- relevant equipment and operational processes
- types and application of quality assurance and quality control mechanisms.

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 is best done from a report and/or folio of evidence drawn from work activities, which together provides sufficient evidence of the requirements of all the elements and performance criteria.
- A third-party report, or similar, may be needed to testify to the work done by the individual, particularly when the project has been done as part of a project team.

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- Assessment may use industry-based simulation for all or part of the unit where the use of real experience is not practicable.
- 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:
  - 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

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MSMSUP404 Coordinate maintenance

Modification History

Release 1. Supersedes and is equivalent to MSAPMOPS404A Co-ordinate maintenance

Application

This unit of competency covers the skills and knowledge required to coordinate maintenance of a manufacturing facility.

It applies to experienced technicians, supervisors, maintenance coordinators or team leaders, working either independently or as part of a team. They will be required to apply knowledge of equipment operating principles, service requirements and workplace production operations to the coordination of maintenance activities to meet the objectives of restoring the plant/equipment condition, consistent with production requirements. They will not be required to actually do the maintenance.

This unit of competency applies to all work environments and sectors within the manufacturing industry. It applies to coordination of one or more of:

- predictive and preventative operational maintenance
- proactive maintenance
- reactive maintenance.

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

Pre-requisite Unit

Nil

Competency Field

Support

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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 maintenance	1.1	Develop work plans for scheduled routine maintenance activities
		1.2	Develop contingency plans for unscheduled maintenance activities
		1.3	Source maintenance providers (internal/external)
		1.4	Develop costings for maintenance work
		1.5	Identify and control hazards
		1.6	Document and record required production interruptions, processes and procedures
		1.7	Obtain required authorisations for the maintenance work
2	Organise maintenance	2.1	Schedule maintenance activities, with reference to production requirements and availability of resources
		2.2	Review available maintenance expertise and arrange appropriate training and assessment where necessary
		2.3	Obtain approvals for maintenance schedule as necessary to coordinate with production requirements
3	Assemble maintenance requirements	3.1	Determine resources required (equipment, personnel and consumables) to meet maintenance schedule
		3.2	Locate and coordinate supply of consumables, equipment and expertise to meet maintenance schedule
		3.3	Purchase equipment, consumables and expertise as required

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4	Complete maintenance	4.1	Complete maintenance schedule
		4.2	Make appropriate readings, measurements and recordings and compare to equipment, product and other relevant specifications
		4.3	Identify areas requiring further testing of plant, which has been subject to maintenance, and recommend appropriate procedures to supervisory staff
		4.4	Make appropriate adjustments to the maintenance schedule
		4.5	Complete records as required, noting areas where changes to equipment operation or routine maintenance are required

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.

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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:

- hand tools specific for the task
- testing equipment
- measuring and aligning equipment
- computer equipment
- relevant personal protective equipment (PPE)

Hazards

Hazards include one or more of the following:

- ineffective isolations of energy sources, motive power and process materials
- manual handling of machinery components
- hot, cold or components containing dangerous materials
- external hazards (e.g. traffic into a maintenance area)
- 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

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- hazardous products and materials
- unauthorised personnel
- sharp edges, protrusions or obstructions
- slippery surfaces, spills or leaks
- extreme weather
- other hazards that might arise

Data and plant records

Data and plant records include one or more of the following:

- plant data
- log sheets
- operational and performance reports
- equipment performance (e.g. speed, output and variations)
- equipment component performance
- sequences and timing of operations
- materials changes (desired and not desired)
- physical aspects, such as noise, smell, feel and pressure condition monitoring information
- planned maintenance schedules
- procedures
- manufacturer specifications, instructions, service manuals and other information

Unit Mapping Information

Release 1. Supersedes and is equivalent to MSAPMOPS404A Co-ordinate maintenance

Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=d1287d36-dff4-4e9f-ad2c-9d6270054027

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Assessment Requirements for MSMSUP404 Coordinate maintenance

Modification History

Release 1. Supersedes and is equivalent to MSAPMOPS404A Co-ordinate maintenance

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:

- plan for maintenance requirements in standard and non-standard situations and determine appropriate action consistent with operation guidelines and regulatory framework
- identify and interpret information from a range of internal and external sources
- develop and adjust work plans for the maintenance activities
- coordinate resources to meet maintenance work plans
- communicate effectively with team/work group, supervisors and other personnel
- monitor work plans for maintenance activities**.**

Knowledge Evidence

Evidence must be provided that demonstrates knowledge of:

- characteristics and capabilities of relevant equipment, materials and processes
- functions and troubleshooting of internal components and their problems
- routine and non-routine causes of equipment failures and processes to develop solutions
- service conditions which may increase maintenance
- urgency and timeliness factors in planning maintenance activities in relation to production requirements
- proactive, predictive, preventative and reactive maintenance principles.

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 operation of an operating plant
  - will typically include a supervisor/third-party report or other evidence, 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

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  - must include the coordination of maintenance in an appropriate industrial context
  - may use industry-based simulation for part only of the unit 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

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MSMSUP405 Identify problems in fluid power system

Modification History

Release 1. Supersedes and is equivalent to MSAPMOPS405A Identify problems in fluid power system

Application

This unit of competency covers the skills and knowledge required to recognise and diagnose problems in hydraulic/pneumatic control systems on process equipment, and take appropriate corrective action.

This unit of competency applies to operators who are required to apply knowledge of fluid power systems and components to the identification and isolation of faults in equipment. The key factors are the diagnosis and the recommendation of action to resolve routine and non-routine faults in order to return the equipment to production.

The unit applies to all work environments and sectors within the manufacturing industry. It requires an understanding of the operation of all relevant equipment and processes but does not necessarily require them to be used personally.

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.

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

Pre-requisite Unit

Nil

Competency Field

Support

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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 pneumatic/hydraulic system problems	1.1	Categorise the types of equipment malfunctions due to fluid power problems
		1.2	Identify the effects on product quality of fluid power problems
		1.3	Describe the function of components on the fluid power circuit diagram
		1.4	Identify possible faulty components from a circuit diagram
		1.5	Identify hazards arising from the problem and implement appropriate hazard control
2	Implement appropriate corrective action	2.1	Identify other possible problems
		2.2	Short list possible fault problems
		2.3	Investigation machine, products or data to determine most likely problem causes
		2.4	Take appropriate action to ensure problem is rectified
		2.5	Follow up on action to ensure completion in an appropriate timeframe
		2.6	Recheck after corrective action to ensure problem has been rectified
3	Develop maintenance requirements	3.1	Check manufacturer instructions to determine recommended maintenance schedule
		3.2	Check fault and maintenance history to determine adequacy of current regime and special requirements

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3.3	Determine criticality of machine to production/business
3.4	Develop maintenance schedule/requirements for machine
3.5	Liaise with all relevant stakeholders to ensure schedule is appropriate
3.6	Report outcome to appropriate 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.

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:

- work instructions

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- 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

Equipment using fluid power control systems

Equipment that uses fluid power control systems include one or more of the following:

- pumps
- pressure controls
- directional control valves (DCVs)
- remote operated valves (ROVs)
- flow control actuators
- accumulators
- filters
- heat exchangers
- proportional, servo and cartridge valves

Non-routine problems

Non-routine problems must be resolved by applying operational knowledge to develop new solutions, either individually or in collaboration with relevant experts to:

- determine problems needing action
- determine possible fault causes
- develop solutions to problems which do not have a known solution
- follow through items initiated until final resolution has occurred
- report problems outside area of responsibility to designated person

Operational knowledge includes one or more of the following:

- procedures
- training
- technical information, such as journals and engineering specifications
- remembered experience
- relevant knowledge obtained from appropriate people

Hazards

Hazards include one or more of the following:

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- high pressures (hydraulic and pneumatic)
- hot surfaces
- equipment failures
- heat, smoke, dust or other atmospheric hazards
- flammability and explosivity
- equipment or product mass
- slippery surfaces, spills or leaks
- noise, rotational equipment or vibration
- electricity
- other hazards that might arise

Unit Mapping Information

Release 1. Supersedes and is equivalent to MSAPMOPS405A Identify problems in fluid power system

Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=d1287d36-dff4-4e9f-ad2c-9d6270054027

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Assessment Requirements for MSMSUP405 Identify problems in fluid power system

Modification History

Release 1. Supersedes and is equivalent to MSAPMOPS405A Identify problems in fluid power system

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:

- identify fluid power problem and possible problem causes
- take appropriate action in a timely manner
- apply operational knowledge to non-routine problems
- develop appropriate maintenance schedule/requirements.

Knowledge Evidence

Evidence must be provided that demonstrates knowledge of:

- hazards and hazard controls specific to the fluid power system and the plant it is used on
- principles of hydraulics/pneumatics and circuit components
- fluid power circuit diagrams
- types and causes of known fluid power problems for the plant unit and its components
- corrective action appropriate to the problem cause
- appropriate investigation procedures and use of equipment for a range of equipment faults.

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 operation of an operating plant
  - 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
  - will typically include the use of an appropriate industrial item of equipment requiring demonstration of operation, start and stop procedures 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.

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- 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

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MSMSUP406 Identify faults in electronic control

Modification History

Release 1. Supersedes and is equivalent to MSAPMOPS406A Identify problems in electronic control

Application

This unit of competency covers the skills and knowledge required to recognise and diagnose control system faults in electrical/electronic control systems on process equipment. It includes the implementation of appropriate corrective action.

This unit of competency applies to technicians. The technician will be required to apply knowledge of electronic control systems and components to the identification and isolation of faults in equipment. The key factors are the diagnosis and the recommendation of action to resolve routine and non-routine faults, in order to return the equipment to production.

The operator will have detailed operational and process knowledge but is not required to demonstrate 'hands on' operation of equipment as part of this competency.

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 common equipment used in the manufacturing industry and should be able to be applied to all equipment using electrical/electronic control systems. It applies to all work environments and sectors within the manufacturing industry.

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

Pre-requisite Unit

Nil

Competency Field

Support

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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 electrical/electronic control system faults	1.1	Categorise the types of machine malfunctions due to electrical and/or electronic faults
		1.2	Describe the effects on product quality of electrical and/or electronic faults
		1.3	Identify possible faulty components from a circuit diagram and knowledge of the function of each component
2	Identify maintenance requirements	2.1	Determine recommended maintenance schedule from manufacturer instructions
		2.2	Determine adequacy of current maintenance regime and any special requirements from fault and maintenance history
		2.3	Determine criticality of machine to production and/or business
		2.4	Develop maintenance schedule and requirements for machine
		2.5	Liaise with all relevant stakeholders to ensure schedule is appropriate
		2.6	Report outcome to appropriate personnel
3	Determine appropriate corrective action	3.1	Examine other possible faults
		3.2	Short list possible fault causes
		3.3	Conduct investigations of machine, products or data to determine most likely fault causes
		3.4	Take appropriate action to ensure fault is rectified

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3.5 Follow up on action to ensure completion in an appropriate timeframe

3.6 Recheck after corrective action to ensure fault has been rectified

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

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- 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:

- programmable logic controls (PLC) and ancillaries
- solid-state control/switching units
- switches, relays and solenoids
- position and pressure transducers
- temperature controllers

Hazards

Hazards include one or more of the following:

- electricity
- incorrect/failed connections
- insulation failure
- polarity of components
- gas
- equipment malfunction/failure
- industrial (machinery, equipment and product)
- noise, rotational equipment or vibration
- temperature from hot surfaces and equipment
- test equipment
- unauthorised personnel
- other hazards that might arise

Faults

Faults may arise from non-routine causes and must be resolved by applying operational knowledge to develop new solutions, either individually or in collaboration with relevant experts to:

- determine faults needing action
- determine possible fault causes
- develop solutions to problems which do not have a known solution
- follow through items initiated until final resolution has occurred
- report faults outside area of responsibility to designated person

Non-routine faults are unexpected faults, or variations of previous faults and include one or more of the following:

- loss of flow, power
- power failure
- component malfunction

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- poor maintenance procedures
- regular maintenance
- shutdown
- motor failure effect on cycle time
- short shots
- loss of clamp pressure
- no power
- electronic/electrical faults
- analysis with PLC

Operational knowledge includes one or more of the following:

- procedures
- training
- technical information, such as journals and engineering specifications
- remembered experience
- relevant knowledge obtained from appropriate people

Unit Mapping Information

Release 1. Supersedes and is equivalent to MSAPMOPS406A Identify problems in electronic control

Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=d1287d36-dff4-4e9f-ad2c-9d6270054027

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Assessment Requirements for MSMSUP406 Identify faults in electronic control

Modification History

Release 1. Supersedes and is equivalent to MSAPMOPS406A Identify problems in electronic control

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:

- recognise and analyse control system faults
- identify and select testing methods based on cost and time effectiveness
- identify and develop maintenance requirements
- propose solutions and carry out solutions within scope of authority
- apply operational knowledge to non-routine problems
- identify and implement corrective actions
- monitor process and equipment conditions.

Knowledge Evidence

Evidence must be provided that demonstrates knowledge of:

- fundamentals of electricity and electronics
- electronic circuit diagrams
- principles of electronic circuit components
- principles of PLC programming, troubleshooting and diagnosis
- appropriate testing procedures and use of equipment for a range of equipment faults
- interaction of process conditions on product quality
- routine and non-routine causes of equipment failures and processes to develop solutions.

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 operation of an operating plant

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  - will typically include a supervisor/third-party report or other evidence, 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
  - may use industry-based simulation for part only of the unit 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

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MSMTMINS301 Inspect a range of simple measures

Modification History

Release 2. Adjustments to the Application, Performance Criteria and Range of Conditions. Adjustment to the Assessment Conditions. Equivalent.

Release 1. Supersedes and is equivalent to MSATMINS301A Inspect a range of simple measures

Application

This unit of competency covers the ability to apply National Instrument Test Procedures to determine whether a range of simple measures are suitable for trade use. The unit also involves assessing the performance of verifiers, by auditing recently verified simple measures, to ensure they meet the legislative requirements for trade use.

This unit of competency is applicable to trade measurement inspectors appointed under national measurement legislation who may inspect a wide range of simple measures as part of their allocated duties. Simple measures such as trade masses, length measures and volume measures are used in a wide variety of commerce, including retail, hospitality, pharmaceuticals and laboratory services.

While no specific licensing or certification requirements apply to this unit at the time of publication, all inspection activity is legislated under the *National Measurement Act 1960.*

Pre-requisite Unit

Nil

Competency Field

Trade measurement

Unit Sector

Elements and Performance Criteria

Elements describe the essential outcomes	Performance criteria describe the performance needed to demonstrate achievement of the element

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1	Prepare for inspection	1.1	Identify and evaluate the type of measurement to be inspected
		1.2	Access and review any history of previous inspections at trader's premises
		1.3	Access and correctly interpret appropriate documentation required for the inspection
		1.4	Identify and access test equipment, products and consumables required for the inspection
		1.5	Ensure specified test equipment is fit for purpose in accordance with applicable legislation and organisational procedures
		1.6	Store and transport test equipment in accordance with organisational procedures and industry best practice
		1.7	Identify workplace health and safety issues relevant to the inspection
2	Initiate inspection	2.1	Identify the site controller, explain the purpose of the inspection and produce formal identification, if required
		2.2	Identify relevant site health and safety issues and implement appropriate control strategies
		2.3	Conduct a preliminary evaluation of the site's trading practices and prioritise activities to maximise inspection outcomes
		2.4	Identify instruments used for trade and plan inspection to minimise disruption to the public and trader
3	Evaluate simple measure performance	3.1	Evaluate whether the operating environment will impact on simple measure performance
		3.2	Modify the operating environment or implement alternative arrangements to ensure reliable test conditions, as necessary
		3.3	Identify the maximum permissible errors for the simple measure from the legislative requirements

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		3.4	Use test equipment safely in accordance with applicable legislation and organisational procedures
		3.5	Check instrument for compliance with the appropriate Certificates of Approval
		3.6	Inspect the simple measure in accordance with relevant National Instrument Test Procedure and appropriate National Measurement Institute (NMI) policy
		3.7	Evaluate results against prescribed performance criteria and determine if the simple measure is suitable for trade use in accordance with legislative requirements
4	Conduct a verifier instrument audit	4.1	Identify the scope of the verifier instrument audit
		4.2	Identify the expected outcomes of the verifier instrument audit
		4.3	Assess the instrument’s performance against the expected outcome
		4.4	Check that the verification mark complies with legislation
		4.5	Analyse any variances from the expected outcomes to identify isolated or systemic problems
5	Analyse and report inspection results	5.1	Analyse inspection data for unacceptable performance trends
		5.2	If required, display the inspection result on the simple measure in accordance with legislative requirements
		5.3	Use test reports to present inspection results in the required format
		5.4	Complete inspection documentation and records in accordance with legislative requirements and organisational procedures
		5.5	Communicate inspection results within the specified time and in accordance with organisational guidelines
		5.6	Recommend follow-up actions as appropriate

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6	Act on non-compliance	6.1	Select applicable enforcement action for the non-compliance in accordance with legislative requirements, organisational policy and procedures
		6.2	Inform traders of non-compliances and consequences of failing to have them corrected
		6.3	Implement enforcement action in accordance with legislative requirements, organisational policy and procedures
		6.4	Respect the rights of the trader at all times

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.

National Instrument Test Procedures include one or more of:	• measuring instrument test procedures • any other test procedure prescribed by the NMI
Classes of simple measures include one or more of:	• length measures • alcoholic beverage measures • lubricating oil measures • graduated measures • pharmaceutical measures • trade masses • any other simple measure prescribed by the NMI
Test equipment includes:	• reference standards of measurement • equipment, such as weighing instruments, strikes and

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	funnels
Certificates of Approval include:	• any Certificate issued by the Chief Metrologist under Regulation 60 of the *National Measurement Regulations 1999* approving the pattern of a simple measure as being suitable for trade use
Prescribed performance criteria for simple measures include:	• that the instrument is of an approved pattern • that the instrument operates within the appropriate limits of error permitted by legislation • that the instrument is used in accordance with any legislative requirements
Verification	Has the same meaning as Section 18GG of the *National Measurement Act 1960*
Verification marks	Verification marks for different measures are defined in Regulations 2.28 and 2.29 of the *National Trade Measurement Regulations 2009*
Trading practices include one or more of:	• methods used for the sale of goods • using measuring instruments • position of measuring instruments • environmental factors • suitability of instrument • incorrect measurement
Legislation includes:	• national measurement legislation • applicable Commonwealth, state and territory work/occupational health and safety (WHS/OHS) legislation
NMI policy includes:	• test procedure variations between a verification, in-service or audit inspection • bulletins • instructions • determinations
WHS/OHS and	• complying with WHS/OHS and environmental management

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environmental management requirements include:	requirements at all times, which may be imposed through state/territory or federal legislation. These requirements must not be compromised at any time • applying standard precautions relating to the potentially hazardous nature of material/product measured • applying any necessary hygiene controls

Unit Mapping Information

Release 2. Adjustments to the Application, Performance Criteria and Range of Conditions. Adjustment to the Assessment Conditions. Equivalent.

Release 1. Supersedes and is equivalent to MSATMINS301A Inspect a range of simple measures

Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=d1287d36-dff4-4e9f-ad2c-9d6270054027

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Assessment Requirements for MSMTMINS301 Inspect a range of simple measures

Modification History

Release 2. Adjustments to the Application, Performance Criteria and Range of Conditions. Adjustment to the Assessment Conditions. Equivalent.

Release 1. Supersedes and is equivalent to MSATMINS301A Inspect a range of simple measures

Performance Evidence

Evidence of competence in this unit must satisfy all of the requirements of the elements and performance criteria, and include demonstration of:

- inspecting at least two (2) measures from each of the following types of simple measures:
  - mass
  - volume
  - length
- accessing and correctly interpreting documentation required for inspections
- ensuring test equipment and reference standards are fit for purpose in accordance with applicable legislation and organisational procedures
- planning, preparing for and safely conducting inspections to maximise outcomes and minimise disruption to the public and trader
- checking compliance and evaluating the performance of simple measures using appropriate Certificate of Approval, National Measurement Institute (NMI) policy and National Instrument Test Procedure and adjusting for any impact of the operating environment
- reliably determining if simple measures are suitable for trade use in accordance with legislative requirements
- conducting at least two (2) verifier simple measure audits to assess the performance of verifiers who test and mark simple measures for trade use
- assessing verifier performance against expected outcomes and analysing any variances to identify isolated or systemic problems
- identifying potential non-compliance of trading practices (associated with simple measures) with national measurement legislation and initiating an efficient inspection strategy that has a limited impact on others
- acting on non-compliance of simple measures or verifier performance and/or trading practices with national measurement legislation and initiating appropriate enforcement action
- demonstrating professionalism and respecting the rights of the trader at all times
- using routine communication and negotiation skills to:
  - explain the purpose of inspection

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  - inform traders of non-compliances and consequences of failing to rectify them
  - explain procedures and inspection outcomes to traders, verifiers and managers
- using numeric skills to:
  - perform specified calculations involving fractions, decimals, ratios, proportions and percentages
  - use correct units and the correct number of significant figures
  - analyse performance results over a single or limited range of operating conditions
- maintaining the security and confidentiality of data in accordance with organisational and regulatory requirements
- reporting results in the required formats and expected timeframe
- working safely.

Knowledge Evidence

Must provide evidence that demonstrates knowledge of:

- general science principles and concepts, such as weight, mass, gravity, density, heat, temperature effects and coefficients of expansion
- measures, such as maximum permissible errors, traceability and coefficients of expansion
- metrological terms and terminology specific to simple error of measurement and error of indication
- safe work method statements (SWMS) for a range of trading environments, such as laboratories, retail, industrial and farming
- national measurement legislation requirements for simple measures
- NMI policy requirements, including test procedure variations between a verification, in-service or audit inspection, bulletins, directives, instructions and determinations
- National Instrument Test Procedures and operating procedures for equipment and reference standards used in job role, including:
  - test conditions and possible environmental impacts on performance of the simple measure
  - key preparation/measurement steps in the test method
  - calculation steps to give results in appropriate units and precision
  - maximum permissible errors for simple measures under inspection
  - organisational policy and procedures for inspecting simple measures, including completing inspection documentation
  - organisational safety procedures and requirements of applicable Commonwealth, state and territory WHS/OHS legislation.

Assessment Conditions

- Judgement of competence must be based on holistic assessment of the evidence. Assessment methods must confirm consistency of performance over time, rather than a single assessment event.

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- This unit of competency should be assessed in the workplace or a simulated workplace environment. A simulated workplace environment must reflect realistic operational workplace conditions that cover all aspects of workplace performance, including the environment, task skills, task management skills, contingency management skills and job role environment skills.
- Foundation skills are integral to competent performance of the unit and should not be assessed separately.
- 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.
- Knowledge evidence may be collected concurrently with performance evidence or through an independent process, such as workbooks, written assessments or interviews (provided a record is kept in each case).
- This unit of competency may be assessed with:
  - *MSMTMREF301 Use and maintain reference standards*
  - *MSMTMINS302 Inspect a range of simple measuring instruments*
  - *MSMTMVER403 Verify Inspectors' Class reference standards*
- Holistic assessment methods include:
  - review of inspection reports and verifier instrument audit reports prepared by the candidate
  - feedback from supervisors and peers regarding the candidate's ability to conduct inspections, evaluate the performance of simple measures and audit verifier's performance in accordance with legislative and organisational procedures
  - questions to assess understanding of relevant procedures, licensing requirements, trader obligations and remedial actions
  - review of candidate's responses to inspection scenarios, such as potential/actual non compliances and appropriate actions, common issues and problems
  - observation of the candidate conducting an inspection.
- Access is required to simple measures, instruments, equipment, materials, workplace documentation, procedures, and specifications associated with this unit, including, but not limited to:
  - latest versions of appropriate documentation, such as Certificates of Verification and Approval, NMI policy, National Instrument Test Procedures for verifying simple measures and relevant legislation
  - equipment manuals, safety data sheets (SDS) and safety procedures
  - records, such as test reports, audit reports, simple measure history and test results
  - simple measures, test equipment and reference standards
  - computer and relevant software and/or organisation information management system.
- Assessors must satisfy the assessor competency requirements that are in place at the time of the assessment as set by the VET regulator.
- The assessor must demonstrate both technical competency and currency.
- Technical competence can be demonstrated through:
  - relevant VET or other qualification/Statement of Attainment AND/OR

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  - relevant workplace experience in trade measurement at least to the level being assessed and broad industry knowledge (such as a relevant industry qualification).
- Currency can be demonstrated through:
  - performing the competency being assessed as part of current employment in trade measurement OR
  - having consulted with trade measurement inspectors and/or verifiers performing the competency being assessed within the last twelve months.

Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=d1287d36-dff4-4e9f-ad2c-9d6270054027

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MSMTMINS302 Inspect a range of simple measuring instruments

Modification History

Release 2. Correction to Application, Performance Criteria and adjustment to Range, Performance Evidence and Assessment Conditions. Equivalent.

Release 1. Supersedes and is equivalent to MSATMINS302A Inspect a range of simple measuring instruments

Application

This unit of competency covers the ability to apply National Instrument Test Procedures to determine whether a range of simple measuring instruments are suitable for trade use. The unit also involves assessing the performance of verifiers, by auditing recently verified simple measuring instruments, to ensure they meet the legislative requirements for trade use.

This unit of competency is applicable to trade measurement inspectors appointed under national measurement legislation who may inspect a wide range of simple measuring instruments as part of their allocated duties. Simple measuring instruments are used in a very wide range of commerce. Measuring instruments are used to measure liquids in tanks; multi-dimensional measuring instruments are used to measure the cubic measurements of packages for freight; length/area instruments are used to measure a wide range of articles sold by reference to those measurements; quality measuring instruments are used to measure certain characteristics of commodities such as protein content of grain; and point of sale systems (POS systems) and control systems for liquid-measuring instruments (Consoles) are systems connected to approved measuring instruments that are used to transform or supplement displayed and/or printed measurement data and/or control certain functions of the connected instrument.

While no specific licensing or certification requirements apply to this unit at the time of publication, all inspection activity is legislated under the *National Measurement Act 1960*.

Pre-requisite Unit

Nil

Competency Field

Trade measurement

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Unit Sector

Elements and Performance Criteria

Elements describe the essential outcomes		Performance criteria describe the performance needed to demonstrate achievement of the element	
1	Prepare for inspection	1.1	Identify and evaluate the type of instrument to be inspected
		1.2	Access and review any history of previous inspections of the instrument
		1.3	Access and correctly interpret appropriate documentation required for the inspection
		1.4	Identify and access test equipment, products and consumables required for the inspection
		1.5	Ensure specified test equipment or reference material is fit for purpose in accordance with applicable legislation and organisational procedures, as appropriate
		1.6	Store and transport test equipment or reference material in accordance with organisational procedures and industry best practice, as appropriate
		1.7	Identify workplace health and safety issues relevant to the inspection
2	Initiate inspection	2.1	Identify the site controller, explain the purpose of the inspection and produce formal identification, if required
		2.2	Identify relevant site health and safety issues and implement appropriate control strategies
		2.3	Conduct a preliminary evaluation of the site’s trading practices and prioritise activities to maximise inspection outcomes
		2.4	Identify instruments used for trade and plan inspection to minimise disruption to the public and trader
		2.5	Identify locations for product return or disposal, as appropriate

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3	Evaluate simple measuring instrument performance	3.1	Evaluate whether the operating environment impacts the instrument's performance
		3.2	If necessary, modify the operating environment or implement alternative arrangements to ensure reliable test conditions
		3.3	Identify the instrument's maximum permissible errors as specified by the legislative requirements
		3.4	Use any test equipment safely in accordance with applicable legislation and organisational procedures
		3.5	Check instrument for compliance with the appropriate Certificates of Approval
		3.6	Inspect the instrument in accordance with relevant National Instrument Test Procedures and appropriate National Measurement Institute (NMI) policy
		3.7	Evaluate results against prescribed performance criteria and determine if the instrument is suitable for trade use in accordance with legislative requirements
4	Conduct a verifier instrument audit	4.1	Identify the scope of the verifier instrument audit
		4.2	Identify the expected outcomes of the verifier instrument audit
		4.3	Assess the instrument's performance against the expected outcome
		4.4	Check that the verification mark complies with legislation
		5.5	Analyse any variances from the expected outcomes to identify isolated or systemic problems
5	Analyse and report inspection results	5.1	Analyse inspection data for unacceptable performance trends
		5.2	If required, display the inspection result on the instrument in accordance with legislative requirements

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		5.3	Use test reports to present inspection results in the required format
		5.4	Complete inspection documentation in accordance with legislative requirements and organisational procedures
		5.5	Communicate inspection results within the specified time and in accordance with organisational guidelines
		5.6	Recommend follow-up actions as appropriate
6	Act on non-compliance	6.1	Select applicable enforcement action for the non-compliance in accordance with legislative requirements and organisational policy and procedures
		6.2	Inform traders of non-compliances and consequences of failing to have them corrected
		6.3	Implement enforcement action in accordance with legislative requirements and organisational policy and procedures
		6.4	Respect the rights of the trader at all times

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.

National Instrument Test Procedures include one or more of:	• measuring instrument test procedures • any other test procedure prescribed by the NMI
Classes of simple measuring	• beverage dispensers

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instruments include one or more of:	• protein quality measuring instruments • grain density measuring instrument • sugar quality measuring instruments • length measuring instruments • area measuring instruments • dimensional measuring instruments • vehicle tanks • farm milk tanks • POS systems • consoles • point of sale systems • control systems • any other instrument prescribed by the NMI
Test equipment and materials include:	• reference standards of measurement • certified reference materials, such as grain for testing protein measuring instruments • equipment, such as weighing instruments, strikes, funnels, water meters, beakers, roman levels, trammels and pocket length comparators
Certificates of Approval include:	• any Certificate issued by the Chief Metrologist under Regulation 60 of the *National Measurement Regulations 1999* approving the pattern of a simple measuring instrument as being suitable for trade
Prescribed performance criteria for simple measuring instruments include:	• that the instrument is of an approved pattern • that the instrument operates within the appropriate limits of error permitted by legislation • that the instrument is used in accordance with any legislative requirements
Verification	Has the same meaning as Section 18GG of the *National Measurement Act 1960*
Verification marks	Verification marks for different instruments are defined in Regulations 2.28 and 2.29 of the *National Trade Measurement Regulations 2009*

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Trading practices include one or more of:	• methods used for the sale of goods • using measuring instruments • position of measuring instruments • environmental factors • suitability of instrument • incorrect measurement
Legislation includes:	• national measurement legislation • applicable Commonwealth, state and territory work/occupational health and safety (WHS/OHS) legislation
Enforcement actions include one or more of:	• formal warnings, infringement notices, undertakings, injunction and prosecutions
NMI policy includes:	• test procedure variations between a verification, in-service or audit inspection • bulletins • instructions • determinations
WHS/OHS and environmental management requirements include:	• complying with WHS/OHS and environmental management requirements at all times, which may be imposed through state/territory or federal legislation. These requirements must not be compromised at any time • applying standard precautions relating to the potentially hazardous nature of material/product measured • applying any necessary hygiene controls

Unit Mapping Information

Release 2. Correction to Application, Performance Criteria and adjustment to Range, Performance Evidence and Assessment Conditions. Equivalent.

Release 1. Supersedes and is equivalent to MSATMINS302A Inspect a range of simple measuring instruments

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Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=d1287d36-dff4-4e9f-ad2c-9d6270054027

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Assessment Requirements for MSMTMINS302 Inspect a range of simple measuring instruments

Modification History

Release 2. Correction to Application, Performance Criteria and adjustment to Range, Performance Evidence and Assessment Conditions. Equivalent.

Release 1. Supersedes and is equivalent to MSATMINS302A Inspect a range of simple measuring instruments

Performance Evidence

- Evidence of competence in this unit must satisfy all of the requirements of the elements and performance criteria, and include demonstration of:
- Completing initial verification testing of at least six (6) instruments with at least one (1) instrument from three (3) of the following classes of simple measuring instruments:
  - beverage dispensers
  - protein quality measuring instruments
  - grain density measuring instruments
  - sugar quality measuring instruments
  - length measuring instruments
  - area measuring instruments
  - dimensional measuring instruments
  - vehicle tanks
  - milk tanks
  - point of sale systems
  - control systems
  - any other simple measuring instrument prescribed by the NMI
- accessing and correctly interpreting documentation required for inspections, evaluation of measuring instruments and verifier audits
- ensuring test equipment, reference standards or reference materials are fit for purpose in accordance with applicable legislation and organisational procedures
- planning, preparing for, and safely conducting inspections to maximise outcomes and minimise disruption to the public and trader
- checking compliance and evaluating the performance of instruments using appropriate Certificate of Approval, National Measurement Institute (NMI) policy and National Instrument Test Procedures, and adjusting for any impact of the operating environment
- reliably determining if instruments are suitable for trade use in accordance with legislative requirements
- conducting at least two (2) verifier instrument audits to assess the performance of verifiers who test and mark simple measuring instruments for trade use

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- assessing verifier performance against expected outcomes and analysing any variances to identify isolated or systemic problems
- identifying potential non-compliance of trading practices (applicable to the instrument) with national measurement legislation and initiating an efficient inspection strategy that has a limited impact on others
- acting on non-compliance of instrument or verifier performance and/or trading practices with national measurement legislation and initiating appropriate enforcement action
- demonstrating professionalism and respecting the rights of the trader at all times
- using routine communication and negotiation skills to:
  - explain the purpose of inspection
  - inform traders of non-compliances and consequences of failing to rectify them
  - explain procedures and inspection outcomes to traders, verifiers and managers
- using numeric skills to:
  - perform specified calculations involving fractions, decimals, ratios, proportions and percentages
  - use correct units and the correct number of significant figures
  - analyse performance results over a single or limited range of operating conditions
- maintaining the security and confidentiality of data in accordance with organisational and regulatory requirements
- reporting results in the required formats and expected timeframe
- working safely.

Knowledge Evidence

Must provide evidence that demonstrates knowledge of:

- general science principles and concepts, such as weight, mass, gravity, density, buoyancy, temperature and coefficients of expansion
- metrological terms and terminology specific to simple measuring instruments, such as maximum permissible errors and traceability
- national measurement legislation requirements for simple measuring instruments
- safe work method statements (SWMS) and safe operating procedures (SOPS) for a range of trading environments, such as laboratories, retail, industrial and farming
- NMI policy requirements, including test procedure variations between a verification, in-service or audit inspection, bulletins, directives, instructions and determinations
- National Instrument Test Procedures and operating procedures for equipment,certified reference materials and reference standards used in job role, including:
  - test conditions and possible environmental impacts on performance of the instrument
  - key preparation/measurement steps in the test method
  - calculation steps to give results in appropriate units and precision
  - maximum permissible errors for simple measuring instruments under inspection
  - organisational policy and procedures for inspecting simple measuring instruments, including completing inspection documentation

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- organisational safety procedures and requirements of applicable Commonwealth, state and territory work/occupational health and safety (WHS/OHS) legislation

Assessment Conditions

- Judgement of competence must be based on holistic assessment of the evidence. Assessment methods must confirm consistency of performance over time, rather than a single assessment event.
- This unit of competency should be assessed in the workplace, or a simulated workplace environment. A simulated workplace environment must reflect realistic operational workplace conditions that cover all aspects of workplace performance, including the environment, task skills, task management skills, contingency management skills and job role environment skills.
- Foundation skills are integral to competent performance of the unit and should not be assessed separately.
- 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.
- Knowledge evidence may be collected concurrently with performance evidence or through an independent process, such as workbooks, written assessments or interviews (provided a record is kept in each case).
- This unit of competency may be assessed with:
  - *MSMTMREF301 Use and maintain reference standards*
  - *MSMTMINS301 Inspect a range of simple measures*
  - *MSMTMVER403 Verify Inspectors' Class reference standards*
- Holistic assessment methods include:
  - review of inspection reports and verifier instrument audit reports prepared by the candidate
  - feedback from supervisors and peers regarding the candidate's ability to conduct inspections, evaluate the performance of simple measuring instruments and audit verifier's performance in accordance with legislative and organisational procedures
  - questions to assess understanding of relevant procedures, licensing requirements, trader obligations and remedial actions
  - review of candidate's responses to inspection scenarios, such as potential/actual non-compliances and appropriate actions, common issues and problems
  - observation of the candidate conducting an inspection.
- Access is required to instruments, equipment, materials, workplace documentation, procedures, and specifications associated with this unit including, but not limited to:
  - latest versions of appropriate documentation, such as Certificates of Verification and Approval, NMI Policy, National Instrument Test Procedures for verifying simple measuring instruments and relevant legislation
  - equipment manuals, safety data sheets (SDS) and safety procedures
  - records, such as test reports, audit reports, instrument history and test results
  - simple measuring instruments, test equipment, reference standards and material
  - computer and relevant software and/or organisation information management system.

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- Assessors must satisfy the assessor competency requirements that are in place at the time of the assessment as set by the VET regulator.
- The assessor must demonstrate both technical competency and currency.
- Technical competence can be demonstrated through:
  - relevant VET or other qualification/Statement of Attainment AND/OR
  - relevant workplace experience in trade measurement at least to the level being assessed and broad industry knowledge (such as a relevant industry qualification).
- Currency can be demonstrated through:
  - performing the competency being assessed as part of current employment in trade measurement OR
  - having consulted with trade measurement inspectors and/or verifiers performing the competency being assessed within the last twelve months.

Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=d1287d36-dff4-4e9f-ad2c-9d6270054027

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MSMTMINS401 Inspect a range of weighing instruments

Modification History

Release 2. Adjustments to the Application, Performance Criteria and Range of Conditions. Adjustment to the Assessment Conditions. Equivalent.

Release 1. Supersedes and is equivalent to MSATMINS401A Inspect a range of weighing instruments

Application

This unit of competency covers the ability to apply National Instrument Test Procedures to determine whether non-automatic weighing instruments and catchweighers are suitable for trade use. The unit also involves assessing the performance of verifiers, by auditing recently verified weighing instruments, to ensure they meet the legislative requirements for trade use.

This unit of competency is applicable to trade measurement inspectors appointed under national measurement legislation who may inspect a wide range of weighing instruments as part of their allocated duties. For example, weighing instruments are used to measure a wide range of products at the point of sale, as an order or as a pre-packaged article. There is a large range of environments where these instruments are used including pharmaceutical laboratories, supermarkets, fresh food retailers, packing houses, the chemical/petroleum industry, construction, mining and other extractive industry sectors. Inspectors must work safely, including applying basic first aid, assessing potential confined spaces, working with hazardous materials, working in hazardous environments, working with heavy machinery, completing safety inductions and working at heights.

While no specific licensing or certification requirements apply to this unit at the time of publication, all inspection activity is legislated under the *National Measurement Act 1960*.

Pre-requisite Unit

Nil

Competency Field

Trade measurement

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Unit Sector

Elements and Performance Criteria

Elements describe the essential outcomes		Performance criteria describe the performance needed to demonstrate achievement of the element	
1	Prepare for inspection	1.1	Identify and evaluate the type of instrument to be inspected
		1.2	Access and review any history of previous inspections at trader's premises
		1.3	Access and correctly interpret appropriate documentation required for the inspection
		1.4	Identify and access test equipment, products and consumables required for the inspection
		1.5	Ensure specified test equipment is fit for purpose in accordance with applicable legislation and organisational procedures
		1.6	Store and transport test equipment in accordance with organisational procedures and industry best practice
		1.7	Identify workplace health and safety issues relevant to the inspection
2	Initiate inspection	2.1	Identify the site controller, explain the purpose of the inspection and produce formal identification, if required
		2.2	Identify relevant site health and safety issues and implement appropriate control strategies
		2.3	Conduct a preliminary evaluation of the site's trading practices and prioritise activities to maximise inspection outcomes.
		2.4	Identify measuring instruments used for trade and plan inspection to minimise disruption to the public and trader

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3	Evaluate weighing instrument performance	3.1	Evaluate whether the operating environment will impact on the instrument performance
		3.2	Modify the operating environment or implement alternative arrangements to ensure reliable test conditions as necessary
		3.3	Identify the maximum permissible errors for the instrument from the legislative requirements
		3.4	Use test equipment safely in accordance with applicable legislation and organisational procedures
		3.5	Check instrument for compliance with the appropriate Certificates of Approval
		3.6	Inspect the instrument in accordance with relevant National Instrument Test Procedures and appropriate National Measurement Institute (NMI) policy
		3.7	Evaluate results against prescribed performance criteria and determine if the instrument is suitable for trade use in accordance with legislative requirements
4	Conduct a verifier instrument audit	4.1	Identify the scope of the verifier instrument audit
		4.2	Identify the expected outcomes of the verifier instrument audit
		4.3	Assess the instrument's performance against the expected outcome
		4.4	Check that the verification mark complies with legislation
		4.5	Analyse any variances from the expected outcomes to identify isolated or systemic problems
5	Analyse and report inspection results	5.1	Analyse inspection data for unacceptable performance trends
		5.2	If required, display the inspection result on the instrument in accordance with legislative requirements
		5.3	Use test reports to present inspection results in the

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			required format
		5.4	Complete inspection documentation in accordance with legislative requirements and organisational procedures
		5.5	Communicate inspection results within the specified time and in accordance with organisational guidelines
		5.6	Recommend follow-up actions as appropriate
6	Act on non-compliance	6.1	Select applicable enforcement action for the non-compliance in accordance with legislative requirements and organisational policy and procedures
		6.2	Inform traders of non-compliances and consequences of failing to have them corrected
		6.3	Implement enforcement action in accordance with legislative requirements and organisational policy and procedures
		6.4	Respect the rights of the trader at all times

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.

National Instrument Test Procedures include one or more of:	• measuring instrument test procedures • any other test procedure prescribed by the NMI
Classes of weighing instruments include one or	• non-automatic weighing instruments tested without substitution loads

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more of:	• automatic Class Y(a) Catchweighers • automatic Class Y(b) Catchweighers • any other weighing instrument prescribed by the NMI
Test equipment includes:	• reference standards of measurement • control instruments
Certificates of Approval include:	• any Certificate issued by the Chief Metrologist under Regulation 60 of the *National Measurement Regulations 1999* approving the pattern of a weighing instrument as being suitable for trade
Prescribed performance criteria for limited weighing instruments include:	• that the design is in accordance with the appropriate Certificates of Approval • that the performance meets the criteria described in the Certificates of Approval, National Instrument Test Procedures and legislation
Verification	Has the same meaning as Section 18GG of the *National Measurement Act 1960*
Verification marks	Verification marks for different instruments are defined in Regulations 2.28 and 2.29 of the *National Trade Measurement Regulations 2009*
Trading practices include one or more of:	• methods used for the sale of goods • using measuring instruments • position of measuring instruments • environmental factors • suitability of instrument • incorrect measurement
Enforcement actions include one or more of:	• formal warnings, infringement notices, undertakings, injunction and prosecutions
Legislation includes:	• national measurement legislation • applicable Commonwealth, state and territory work/occupational health and safety (WHS/OHS)

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	legislation
NMI policy includes:	• test procedure variations between a verification, in-service or audit inspection • bulletins • instructions • determinations
WHS/OHS and environmental management requirements include:	• complying with WHS/OHS and environmental management requirements at all times, which may be imposed through state/territory or federal legislation. These requirements must not be compromised at any time • applying standard precautions relating to the potentially hazardous nature of material/product measured • applying any necessary hygiene controls

Unit Mapping Information

Release 2. Adjustments to the Application, Performance Criteria and Range of Conditions. Adjustment to the Assessment Conditions. Equivalent.

Release 1. Supersedes and is equivalent to MSATMINS401A Inspect a range of weighing instruments

Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=d1287d36-dff4-4e9f-ad2c-9d6270054027

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Assessment Requirements for MSMTMINS401 Inspect a range of weighing instruments

Modification History

Release 2. Adjustments to the Application, Performance Criteria and Range of Conditions. Adjustment to the Assessment Conditions. Equivalent.

Release 1. Supersedes and is equivalent to MSATMINS401A Inspect a range of weighing instruments

Performance Evidence

Evidence of competence in this unit must satisfy all of the requirements of the elements and performance criteria, and include demonstration of:

- completing initial verification testing of:
  - at least one (1) non-automatic weighing instrument from each of the following four classes of instruments (Class 1, 2, 3 and 4); and
  - at least one (1) catchweighing instrument from either Class Y(a) or Y(b)
- accessing and correctly interpreting documentation required for inspections, evaluation of weighing instruments and verifier audits
- ensuring test equipment and reference standards are fit for purpose in accordance with applicable legislation and organisational procedures
- planning, preparing for and safely conducting inspections to maximise outcomes and minimise disruption to the public and trader
- checking compliance and evaluating the performance of weighing instruments using appropriate Certificate of Approval, National Measurement Institute (NMI) policy and National Instrument Test Procedures, and adjusting for any impact of the operating environment
- reliably determining if weighing instruments are suitable for trade use in accordance with legislative requirements
- conducting at least two (2) verifier instrument audits to assess the performance of verifiers who test and mark weighing instruments for trade use
- assessing verifier performance against expected outcomes and analysing any variances to identify isolated or systemic problems
- identifying potential non-compliance of trading practices (applicable to instruments) with national measurement legislation and initiating an efficient inspection strategy that has a limited impact on others
- recognising and acting on non-compliance of a weighing instrument or verifier performance and/or trading practices with national measurement legislation and initiating appropriate enforcement action
- demonstrating professionalism and respecting the rights of the trader at all times
- using advanced communication and negotiation skills to:

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  - explain the inspection purpose, procedures and outcomes to traders, verifiers and managers
  - inform traders of non-compliances and consequences of failing to rectify them
  - access external equipment and resources to complete the inspection
- performing specified calculations involving:
  - fractions, decimals, ratios, proportions and percentages
  - scientific notation, correct units and the correct number of significant figures
- maintaining the security and confidentiality of data in accordance with organisational and regulatory requirements
- reporting results in the required formats and expected timeframe
- working safely.

Knowledge Evidence

Must provide evidence that demonstrates knowledge of:

- general science principles and concepts, including weight, mass and gravity
- metrological terms and terminology specific to weighing instruments, including maximum permissible errors, traceability, uncertainty, maximum permissible difference, eccentricity, repeatability, error of measurement, error of indication and linearisation
- national measurement legislation applicable to weighing instruments
- safe work method statements (SWMS) for a range of trading environments, such as laboratories, retail, manufacturing, industrial, mining, construction, medical, chemical, petroleum, farming and abattoirs
- NMI policy requirements, including test procedure variations between a verification, in-service or audit inspection, bulletins, instructions and determinations
- detailed National Instrument Test Procedures and operating procedures for equipment and reference standards used in job role, including:
  - test conditions and possible environmental impacts on performance of the instrument
  - key preparation/measurement steps in test method
  - calculation steps to give results in appropriate units and precision
  - maximum permissible errors for weighing instruments under inspection
  - organisational policy and procedures for inspecting weighing instruments, including completing inspection documentation
  - organisational safety procedures and requirements of applicable Commonwealth, state and territory work/occupational health and safety (WHS/OHS) legislation.

Assessment Conditions

- Judgement of competence must be based on holistic assessment of the evidence. Assessment methods must confirm consistency of performance over time, rather than a single assessment event.

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- This unit of competency should be assessed in the workplace or a simulated workplace environment. A simulated workplace environment must reflect realistic operational workplace conditions that cover all aspects of workplace performance, including the environment, task skills, task management skills, contingency management skills and job role environment skills.
- Foundation skills are integral to competent performance of the unit and should not be assessed separately.
- 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.
- Knowledge evidence may be collected concurrently with performance evidence or through an independent process, such as workbooks, written assessments or interviews (provided a record is kept in each case).
- This unit of competency may be assessed with:
  - *MSMTMREF301 Use and maintain reference standards*
  - *MSMTMINS403 Inspect a range of trading practices*
  - *MSMTMINS404 Inspect a range of pre-packaged products*
  - *MSMTMINS402 Inspect a range of liquid measuring instruments using volume measures*
- Holistic assessment methods include:
  - review of initial verification testing reports and verifier instrument audit reports prepared by the candidate
  - feedback from supervisors and peers regarding the candidate's ability to conduct inspections, evaluate the performance of weighing instruments and audit verifier’s performance in accordance with legislative and organisational procedures
  - questions to assess understanding of relevant procedures, licensing requirements, trader obligations and remedial actions
  - review of candidate’s responses to inspection scenarios, such as potential/actual non-compliances and appropriate actions, common issues and problems
  - observation of the candidate conducting an inspection.
- Access is required to instruments, equipment, materials, workplace documentation, procedures, and specifications associated with this unit including, but not limited to:
  - latest versions of appropriate documentation, such as Certificates of Verification and Approval, NMI policy, National Instrument Test Procedures for verifying weighing instruments and relevant legislation
  - equipment manuals, safety data sheets (SDS) and safety procedures
  - records, such as test reports, audit reports, instrument history and test results
  - weighing instruments, test equipment and reference standards
  - computer and relevant software and/or organisation information management system.
- Assessors must satisfy the assessor competency requirements that are in place at the time of the assessment as set by the VET regulator.
- The assessor must demonstrate both technical competency and currency.
- Technical competence can be demonstrated through:
  - relevant VET or other qualification/Statement of Attainment AND/OR

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  - relevant workplace experience in trade measurement at least to the level being assessed and broad industry knowledge (such as a relevant industry qualification).
- Currency can be demonstrated through:
  - performing the competency being assessed as part of current employment in trade measurement OR
  - having consulted with trade measurement inspectors and/or verifiers performing the competency being assessed within the last twelve months.

Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=d1287d36-dff4-4e9f-ad2c-9d6270054027

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MSMTMINS402 Inspect liquid measuring instruments using volume measures

Modification History

Release 2. Adjustments to the Application, Performance Criteria and Range of Conditions. Adjustment to Assessment Conditions. Equivalent.

Release 1. Supersedes and is equivalent to MSATMINS402A Inspect liquid measuring instruments using volume measures

Application

This unit of competency covers the ability to apply National Instrument Test Procedures to determine whether liquid measuring instruments, tested using volume measures, are suitable for trade use. The unit also involves auditing the performance of verifiers, by auditing recently verified liquid measuring instruments, to ensure they meet the legislative requirements for trade use.

This unit of competency is applicable to trade measurement inspectors appointed under national measurement legislation who may inspect a wide range of liquid measuring instruments, tested using volume measures, as part of their allocated duties.

Liquid measuring instruments are used in a very wide range of commerce. For example, petrol dispensers measure fuel at the point of sale and flowmeters are used to measure bulk commodities, such as milk, chemicals and petroleum products during production and distribution. Inspections are often performed over extended durations in non-routine and hazardous environments. Inspectors must work safely, including applying basic first aid, assessing potential confined spaces, working with hazardous materials, working in hazardous environments, working with heavy machinery, using appropriate workplace clearance forms, completing safety inductions and working at heights.

While no specific licensing or certification requirements apply to this unit at the time of publication, all inspection activity is legislated under the *National Measurement Act 1960.*

Pre-requisite Unit

Nil

Competency Field

Trade measurement

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Unit Sector

Elements and Performance Criteria

Elements describe the essential outcomes		Performance criteria describe the performance needed to demonstrate achievement of the element	
1	Prepare for inspection	1.1	Identify and evaluate the type of instrument to be inspected
		1.2	Access and review any history of previous inspections at trader's premises
		1.3	Access and correctly interpret appropriate documentation required for the inspection
		1.4	Identify and access test equipment, products and consumables required for the inspection
		1.5	Ensure specified test equipment is fit for purpose in accordance with applicable legislation and organisational procedures
		1.6	Store and transport test equipment in accordance with organisational procedures and industry best practice
		1.7	Identify workplace health and safety issues relevant to the inspection
2	Initiate inspection	2.1	Identify the site controller, explain the purpose of the inspection and produce formal identification, if required
		2.2	Identify relevant site health and safety issues and implement appropriate control strategies
		2.3	Conduct a preliminary evaluation of the site's trading practices and prioritise activities to maximise inspection outcomes
		2.4	Identify trade measuring instruments and plan inspection to minimise disruption to the public and trader
3	Evaluate liquid	3.1	Evaluate whether the operating environment will impact

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	measuring instrument performance		on the instrument performance
		3.2	Modify the operating environment or implement alternative arrangements to ensure reliable test conditions as necessary
		3.3	Identify the maximum permissible errors for the instrument from the legislative requirements
		3.4	Use test equipment safely in accordance with applicable legislation and organisational procedures
		3.5	Check instrument for compliance with the appropriate Certificates of Approval
		3.6	Inspect the instrument in accordance with relevant National Instrument Test Procedures and appropriate National Measurement Institute (NMI) policy
		3.7	Evaluate results against prescribed performance criteria and determine if the instrument is suitable for trade use in accordance with legislative requirements
4	Conduct a verifier instrument audit	4.1	Identify the scope of the verifier instrument audit
		4.2	Identify the expected outcomes of the verifier instrument audit
		4.3	Assess the verifier's performance against the expected outcome
		4.4	Check that the verification mark complies with legislation
		4.5	Analyse any variances from the expected outcomes to identify isolated or systemic problems
5	Analyse and report inspection results	5.1	Analyse inspection data for unacceptable performance trends
		5.2	If required, display the inspection result on the instrument in accordance with legislative requirements
		5.3	Use test reports to present inspection results in the required format

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		5.4	Complete inspection documentation in accordance with legislative requirements and organisational procedures
		5.5	Communicate inspection results within the specified time and in accordance with organisational guidelines
		5.6	Recommend follow-up actions as appropriate
6	Act on non-compliance	6.1	Select applicable enforcement action for the non-compliance in accordance with legislative requirements and organisational policy and procedures
		6.2	Inform traders of non-compliances and consequences of failing to have them corrected
		6.3	Implement enforcement action in accordance with legislative requirements and organisational policy and procedures
		6.4	Respect the rights of the trader at all times

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.

National Instrument Test Procedures include one or more of:	• measuring instrument test procedures • any other test procedure prescribed by the NMI
Classes of liquid measuring instruments	• fuel dispensers other than liquid petroleum gas (LPG) dispensers

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include one or more of:	• milk flowmeters tested using a volume measure • any other liquid measuring instrument prescribed by the NMI
Test equipment includes:	• reference standards of measurement • equipment, such as a small measure, dummy nozzle, safety equipment and a hand tools
Certificates of Approval include:	• any Certificate issued by the Chief Metrologist under Regulation 60 of the *National Measurement Regulations 1999* approving the pattern of a liquid measuring instrument as being suitable for trade
Prescribed performance criteria for liquid measuring instruments include:	• that the design is in accordance with the appropriate Certificates of Approval • that the performance meets the criteria described in the Certificates of Approval, National Instrument Test Procedures and legislation
Verification	Has the same meaning as Section 18GG of the *National Measurement Act 1960*
Verification marks	Verification marks for different instruments are defined in Regulations 2.28 and 2.29 of the *National Trade Measurement Regulations 2009*
Trading practices include one or more of:	• methods used for the sale of goods • using measuring instruments • position of measuring instruments • environmental factors • suitability of instrument • incorrect measurement
Enforcement actions include one or more of:	• formal warnings, infringement notices, undertakings, injunction and prosecutions
Legislation includes:	• national measurement legislation • applicable Commonwealth, state and territory

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	work/occupational health and safety (WHS/OHS) legislation
NMI policy includes:	• test procedure variations between a verification, in-service or audit inspection • bulletins • instructions • determinations
WHS/OHS and environmental management requirements include:	• complying with WHS/OHS and environmental management requirements at all times, which may be imposed through state/territory or federal legislation. These requirements must not be compromised at any time • applying standard precautions relating to the potentially hazardous nature of material/product measured • applying any necessary hygiene controls

Unit Mapping Information

Release 2. Adjustments to the Application, Performance Criteria and Range of Conditions. Adjustment to Assessment Conditions. Equivalent.

Release 1. Supersedes and is equivalent to MSATMINS402A Inspect liquid measuring instruments using volume measures

Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=d1287d36-dff4-4e9f-ad2c-9d6270054027

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Assessment Requirements for MSMTMINS402 Inspect liquid measuring instruments using volume measures

Modification History

Release 2. Adjustments to the Application, Performance Criteria and Range of Conditions. Adjustment to Assessment Conditions. Equivalent.

Release 1. Supersedes and is equivalent to MSATMINS402A Inspect liquid measuring instruments using volume measures

Performance Evidence

Evidence of competence in this unit must satisfy all of the requirements of the elements and performance criteria, and include demonstration of:

- completing initial verification testing of at least three (3) instruments from one (1) or more of the following classes of liquid measuring instruments:
  - fuel dispensers other than liquid petroleum gas (LPG) dispensers
  - milk flowmeters
- accessing and correctly interpreting documentation required for inspections, evaluation of liquid measuring instruments and verifier audits
- ensuring test equipment and reference standards are fit for purpose in accordance with applicable legislation and organisational procedures
- planning, preparing for and safely conducting inspections to maximise outcomes and minimise disruption to the public and trader
- checking compliance and evaluating the performance of liquid measuring instruments using appropriate Certificate of Approval, National Measurement Institute (NMI) policy and National Instrument Test Procedures, and adjusting for any impact of the operating environment
- reliably determining if liquid measuring instruments are suitable for trade use in accordance with legislative requirements
- conducting at least two (2) verifier instrument audits to assess the performance of verifiers who test and mark liquid measuring instruments for trade use
- assessing verifier performance against expected outcomes and analysing any variances to identify isolated or systemic problems
- identifying potential non-compliance of trading practices (applicable to instruments) with national measurement legislation and initiating an efficient inspection strategy that has a limited impact on others
- recognising and acting on non-compliance of liquid measuring instrument or verifier performance and/or trading practices with national measurement legislation and initiating appropriate enforcement action
- demonstrating professionalism and respecting the rights of the trader at all times
- using advanced communication and negotiation skills to:
  - explain the purpose of inspection

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  - inform traders of non-compliances and consequences of failing to rectify them
  - access external equipment and resources to complete the inspection
  - explain inspection procedures and outcomes to traders, verifiers and managers
- performing specified calculations involving:
  - fractions, decimals, ratios, proportions and percentages
  - scientific notation, correct units and the correct number of significant figures, calculation of uncertainties
  - evaluation of formulae containing powers, exponents and logarithms functions
  - preparation and interpretation of linear graphs
- maintaining the security and confidentiality of data in accordance with organisational and regulatory requirements
- reporting results in the required formats and expected timeframe
- working safely.

Knowledge Evidence

Must provide evidence that demonstrates knowledge of:

- general science principles and concepts, including:
  - physical states (solid, liquid, gas), weight, mass, gravity and density
  - pressure, pressure differential, backpressure and head pressure, fluid flow and viscosity
  - temperature effects and coefficients of expansion, flashpoint, boiling point and ice point
- metrological terms and terminology specific to liquid measuring instruments, including maximum permissible errors, maximum permissible difference and maximum permissible variation, traceability, repeatability, uncertainty, error of measurement and error of indication, meter creep, hose dilation, temperature correction, linearization and gas elimination
- basic details of the design, application and function of components used in liquid measuring instruments
- national measurement legislation applicable to liquid measuring instruments
- safe work method statements (SWMS) for a range of trading environments, such as laboratories, retail, commercial, office, manufacturing, industrial, mining, construction, medical, chemical and petroleum
- NMI policy requirements, including test procedure variations between a verification, in-service or audit inspection, bulletins, instructions and determinations
- National Instrument Test Procedures and operating procedures for equipment and reference standards used in job role, including:
  - test conditions and possible environmental impacts on performance of the instrument
  - key preparation/measurement steps in test method
  - calculation steps to give results in appropriate units and precision
  - maximum permissible errors for liquid measuring instruments under inspection
  - safety principles and procedures relevant to liquid measuring instruments

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- organisational policy and procedures for inspecting liquid measuring instruments including completing inspection documentation
- organisational safety procedures and requirements of applicable Commonwealth, state and territory work/occupational health and safety (WHS/OHS) legislation.

Assessment Conditions

- Judgement of competence must be based on holistic assessment of the evidence. Assessment methods must confirm consistency of performance over time, rather than a single assessment event.
- This unit of competency should be assessed in the workplace, or a simulated workplace environment. A simulated workplace environment must reflect realistic operational workplace conditions that cover all aspects of workplace performance, including the environment, task skills, task management skills, contingency management skills and job role environment skills.
- Foundation skills are integral to competent performance of the unit and should not be assessed separately.
- 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.
- Knowledge evidence may be collected concurrently with performance evidence or through an independent process, such as workbooks, written assessments or interviews (provided a record is kept in each case).
- This unit of competency may be assessed with:
  - *MSMTMREF301 Use and maintain reference standards*
  - *MSMTMINS401 Inspect a range of weighing instruments*
  - *MSMTMINS403 Inspect a range of trading practices*
  - *MSMTMINS404 Inspect a range of pre-packaged products*
- Holistic assessment methods include:
  - review of inspection reports and verifier instrument audit reports prepared by the candidate
  - feedback from supervisors and peers regarding the candidate's ability to conduct inspections, evaluate the performance of liquid measuring instruments and audit verifier’s performance in accordance with legislative and organisational procedures
  - questions to assess understanding of relevant procedures, licensing requirements, trader obligations and remedial actions
  - review of candidate’s responses to inspection scenarios, such as potential/actual non-compliances and appropriate actions, common issues and problems
  - observation of the candidate conducting an inspection.
- Access is required to instruments, equipment, materials, workplace documentation, procedures, and specifications associated with this unit including, but not limited to:
  - latest versions of appropriate documentation, such as Certificates of Verification and Approval, NMI policy, intermediate National Instrument Test Procedures for verifying liquid measuring instruments and relevant legislation

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  - workplace clearance forms and correction tables for volume, density and pressure for a range of liquids
  - equipment manuals, safety data sheets (SDS), safety procedures and safety equipment
  - records, such as test reports, audit reports, instrument history and test results
  - liquid measuring instruments; test equipment, such as pumps, funnels and hoses; and reference standards
  - computer and relevant software and/or organisation information management system.
- Assessors must satisfy the assessor competency requirements that are in place at the time of the assessment as set by the VET regulator.
- The assessor must demonstrate both technical competency and currency.
- Technical competence can be demonstrated through:
  - relevant VET or other qualification/Statement of Attainment AND/OR
  - relevant workplace experience in trade measurement at least to the level being assessed and broad industry knowledge (such as a relevant industry qualification).
- Currency can be demonstrated through:
  - performing the competency being assessed as part of current employment in trade measurement OR
  - having consulted with trade measurement inspectors and/or verifiers performing the competency being assessed within the last twelve months.

Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=d1287d36-dff4-4e9f-ad2c-9d6270054027

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MSMTMINS403 Inspect a range of trading practices

Modification History

Release 2. Adjustments to the Application, Performance Criteria and Range of Conditions. Adjustment to the Assessment Conditions. Equivalent.

Release 1. Supersedes and is equivalent to MSATMINS403A Inspect a range of trading practices

Application

This unit of competency covers the inspection of trading practices and application of National Test Procedures to determine whether the method of advertising, selling and measuring an article complies with national measurement legislation.

This unit of competency is applicable to trade measurement inspectors appointed under national measurement legislation who may inspect a wide range of trading practices as part of their duties. Transactions of all products sold by reference to measurement in all industry sectors must comply with national legislation governing trading practices. Inspectors must work safely which may include applying basic first aid, working with hazardous materials, working in hazardous environments, working with heavy machinery, completing safety inductions.

While no specific licensing or certification requirements apply to this unit at the time of publication, all inspection activity is legislated under the *National Measurement Act 1960*.

Pre-requisite Unit

Nil

Competency Field

Trade measurement

Unit Sector

Elements and Performance Criteria

Elements describe the essential outcomes	Performance criteria describe the performance needed to demonstrate achievement of the element

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1	Prepare for inspection	1.1	Identify and evaluate the type of trading practices likely to be inspected
		1.2	Access and review any history of previous inspections at trader's premises
		1.3	Access and correctly interpret appropriate documentation required for the inspection
		1.4	Identify and access test equipment, investigation equipment and consumables required for the inspection
		1.5	Ensure specified test equipment is fit for purpose in accordance with applicable legislation and organisational procedures
		1.6	Store and transport test equipment in accordance with organisational procedures and industry best practice
		1.7	Identify workplace health and safety issues relevant to the inspection
2	Conduct a trial purchase	2.1	Observe and assess visible trading practices prior to entry into the premises
		2.2	Identify scope and expected outcomes of the trial purchase
		2.3	On entry to the premises, evaluate trading practices and where applicable modify trial purchase strategy to maximise inspection outcomes
		2.4	Conduct trial purchase while observing the measurement process and staff actions
		2.5	Assess trader's performance against expected outcomes
		2.6	Analyse any variances from the expected outcomes and identify isolated or systemic issues related to the trial purchase
3	Initiate inspection	3.1	Identify the site controller, explain the purpose of the inspection and produce formal identification, if required

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		3.2	Identify site workplace health and safety issues and implement appropriate control strategies
		3.3	Conduct a preliminary evaluation of the site's trade measurement activities and prioritise inspection to maximise outcomes
		3.4	Identify measuring instruments being used for trade
		3.5	Identify site's trading practice activities and plan inspection to minimise disruption to the public and trader
4	Examine measurement related advertising for compliance	4.1	Identify the articles which are required to be sold by specific measurement or in terms of a measurement at base conditions
		4.2	Inspect and evaluate measurement related advertising used by the trader
		4.3	Identify any non-compliances with legislative requirements
5	Examine measuring instrument operation	5.1	Inspect measuring instrument operating environment and determine instrument suitability for purpose
		5.2	Evaluate measuring instrument operation against legislative requirements, organisational policy and procedures
		5.3	Modify the operating environment or implement alternative arrangements to ensure reliable test conditions, as necessary
		5.4	Identify the maximum permissible errors for the instrument from the legislative requirements
		5.5	Use test equipment safely in accordance with applicable legislation and organisational procedures
		5.6	Check instrument for compliance with the appropriate Certificates of Approval
		5.7	Inspect the instrument in accordance with relevant National Instrument Test Procedures and appropriate

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			National Measurement Institute (NMI) policy
		5.8	Evaluate results against prescribed performance criteria and determine if the instrument is suitable for trade use in accordance with legislative requirements
6	Validate the measurement of articles	6.1	Identify articles sold by reference to measurement
		6.2	Examine the process used by the trader for measuring an article
		6.3	Evaluate the trader's measurement procedure
		6.4	Measure an article in accordance with the appropriate National Instrument Test Procedure and organisational policy and procedures
7	Analyse and report inspection results	7.1	Analyse inspection data for unacceptable trends
		7.2	Use test reports to present inspection results in the required format
		7.3	Complete inspection documentation in accordance with legislative requirements and organisational procedures
		7.4	Communicate inspection results within the specified time and in accordance with organisational guidelines
		7.5	Recommend follow-up actions as appropriate
8	Act on non-compliance	8.1	Record and collect evidence of any identified non-compliance in accordance with legislative requirements and organisational policy and procedures
		8.2	Select applicable enforcement action for the non-compliance in accordance with legislative requirements and organisational policy and procedures
		8.3	Inform trader of non-compliances and the consequences of failing to have them corrected
		8.4	Implement enforcement action in accordance with legislative requirements and organisational policy and procedures

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8.5 Respect the rights of the trader at all times

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.

National Instrument Test Procedures include one or more of:	• measuring instrument test procedures • article measurement procedures • any other test procedure prescribed by the NMI
Test equipment includes one or more of:	• measuring instruments • trolleys • cameras • video and audio recorders
Certificates of Approval include:	• any Certificate issued by the Chief Metrologist under Regulation 60 of the *National Measurement Regulations 1999* approving the pattern of a simple measure as being suitable for trade
Verification	Has the same meaning as Section 18GG of the *National Measurement Act 1960*
Verification marks	Verification marks for different measures are defined in Regulations 2.28 and 2.29 of the *National Trade Measurement Regulations 2009*

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Trading practices include one or more of:	• how a measuring instrument is used • position of measuring instruments • measurement advertising • how the measurement of an article is determined • the type of measurement used to sell an article • the base conditions at which the measurement of an article is determined
Enforcement actions include one or more of:	• formal warnings, infringement notices, undertakings, injunction and prosecutions
Legislation includes:	• national measurement legislation • applicable Commonwealth, state and territory work/occupational health and safety (WHS/OHS) legislation
NMI policy includes:	• bulletins • instructions • determinations
WHS/OHS and environmental management requirements include:	• complying with WHS/OHS and environmental management requirements at all times, which may be imposed through state/territory or federal legislation. These requirements must not be compromised at any time • applying standard precautions relating to the potentially hazardous nature of material/product measured • applying any necessary hygiene controls

Unit Mapping Information

Release 2. Adjustments to the Application, Performance Criteria and Range of Conditions. Adjustment to the Assessment Conditions. Equivalent.

Release 1. Supersedes and is equivalent to MSATMINS403A Inspect a range of trading practices

Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=d1287d36-dff4-4e9f-ad2c-9d6270054027

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Assessment Requirements for MSMTMINS403 Inspect a range of trading practices

Modification History

Release 2. Adjustments to the Application, Performance Criteria and Range of Conditions. Adjustment to the Assessment Conditions. Equivalent.

Release 1. Supersedes and is equivalent to MSATMINS403A Inspect a range of trading practices

Performance Evidence

Evidence of competence in this unit must satisfy all of the requirements of the elements and performance criteria, and include demonstration of:

- identifying at least four (4) of the following examples of non-compliance while inspecting trading practices:
  - how a measuring instrument is used
  - position of measuring instruments
  - measurement advertising
  - how the measurement of an article is determined
  - the type of measurement used to sell an article
- accessing and correctly interpreting documents for the inspection of trading practices, including national measurement legislation, National Instrument Test Procedures and National Measurement Institute (NMI) inspection policy
- ensuring test equipment and reference standards are fit for purpose in accordance with applicable legislation and organisational procedures
- planning, preparing for and safely conducting inspections to maximise outcomes and minimise disruption to the public and trader
- observing visible trading practices, conducting trial purchases, evaluating trader's measurement related advertising, and validating measurement of articles to assess a trader's performance and identify isolated or systemic issues
- identifying potential non-compliance of trading practices with national measurement legislation and initiating an efficient inspection strategy that has a limited impact on others
- checking compliance and evaluating the performance of measuring instruments using appropriate Certificate of Approval, NMI policy and National Instrument Test Procedures and adjusting for any impact of the operating environment
- reliably determining if measuring instruments are suitable for trade use in accordance with legislative requirements
- recognising and acting on non-compliance of trading practices or measuring instruments with national measurement legislation and initiating appropriate enforcement action
- demonstrating professionalism and respecting the rights of the trader at all times
- using advanced communication and negotiation skills to:

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  - explain the purpose of inspection
  - inform traders of non-compliances and consequences of failing to rectify them
  - access external equipment and resources to complete the inspection
  - explain inspection procedures and outcomes to traders and managers
- performing specified calculations involving:
  - fractions, decimals, ratios, proportions and percentages
  - scientific notation, correct units and the correct number of significant figures
  - interpretation of statistical quantities, such as mean, median, mode, range, variance and standard deviation
- maintaining the security and confidentiality of data in accordance with organisational and regulatory requirements
- reporting results in the required formats and expected timeframe
- working safely.

Knowledge Evidence

Must provide evidence that demonstrates knowledge of:

- general physical principles and concepts, including weight, mass, gravity, volume, length and area
- metrological terms and terminology, including maximum permissible errors, traceability and uncertainty
- national measurement legislation requirements applicable to trading practices and measuring instruments
- safe work method statements (SWMS) for a range of trading environments
- NMI policy requirements, including test procedure variations between a verification, in-service or audit inspection, bulletins, instructions and determinations
- National Instrument Test Procedures and operating procedures for the equipment, and reference standards used in job role, including:
  - test conditions and possible environmental impacts on performance of the instrument
  - key preparation/measurement steps in test method
  - calculation steps to give results in appropriate units and precision
  - maximum permissible errors for measuring instruments under inspection
  - safety principles and procedures relevant to measuring instruments and inspections
  - organisational policy and procedures for inspection of trading practices, including completing inspection documentation
  - organisational safety procedures and requirements of applicable Commonwealth, state and territory work/occupational health and safety (WHS/OHS) legislation
- basic first aid and site safety induction if required.

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Assessment Conditions

- Judgement of competence must be based on holistic assessment of the evidence. Assessment methods must confirm consistency of performance over time, rather than a single assessment event.
- This unit of competency should be assessed in the workplace, or a simulated workplace environment. A simulated workplace environment must reflect realistic operational workplace conditions that cover all aspects of workplace performance, including the environment, task skills, task management skills, contingency management skills and job role environment skills.
- Foundation skills are integral to competent performance of the unit and should not be assessed separately.
- 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.
- Knowledge evidence may be collected concurrently with performance evidence or through an independent process, such as workbooks, written assessments or interviews (provided a record is kept in each case).
- This unit of competency may be assessed with:
  - *MSMTMREF301 Use and maintain reference standards*
  - *MSMTMINS401 Inspect a range of weighing instruments*
  - *MSMTMINS402 Inspect a range of liquid measuring instruments using volume measures*
  - *MSMTMINS404 Inspect a range of pre-packaged products*
- Holistic assessment methods include:
  - review of inspection reports prepared by the candidate
  - feedback from supervisors and peers regarding the candidate's ability to inspect trading practices and evaluate the performance of measuring instruments and trader’s performance in accordance with legislative and organisational procedures
  - questions to assess understanding of relevant procedures, licensing requirements, trader obligations and remedial actions
  - review of candidate’s responses to inspection scenarios, such as potential/actual non-compliances and appropriate actions, common issues and problems
  - observation of the candidate conducting an inspection of trading practices.
- Access is required to instruments, equipment, materials, workplace documentation, procedures and specifications associated with this unit including, but not limited to:
  - latest versions of appropriate documentation, such as Certificates of Approval, NMI policy, National Instrument Test Procedures for inspection of trading practices and relevant legislation
  - equipment manuals, safety data sheets (SDS), safety procedures and safety equipment
  - records, such as test reports, audit reports, instrument history and test results
  - measuring instruments, test equipment and reference standards
  - computer and relevant software and/or organisation information management system,
- Assessors must satisfy the assessor competency requirements that are in place at the time of the assessment as set by the VET regulator.

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- The assessor must demonstrate both technical competency and currency.
- Technical competence can be demonstrated through:
  - relevant VET or other qualification/Statement of Attainment AND/OR
  - relevant workplace experience in trade measurement at least to the level being assessed and broad industry knowledge (such as a relevant industry qualification).
- Currency can be demonstrated through:
  - performing the competency being assessed as part of current employment in trade measurement OR
  - having consulted with trade measurement inspectors and/or verifiers performing the competency being assessed within the last twelve months.

Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=d1287d36-dff4-4e9f-ad2c-9d6270054027

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MSMTMINS404 Inspect a range of pre-packaged products

Modification History

Release 2. Adjustments to Application, Performance Criteria and Range of Conditions. Equivalent.

Release 1. Supersedes and is equivalent to MSATMINS404A Inspect a range of pre-packaged products

Application

This unit of competency covers the inspection of pre-packaged products and application of National Test Procedures to determine whether the marking and measurement requirements of the packaged article comply with national measurement legislation.

This unit of competency is applicable to trade measurement inspectors appointed under national measurement legislation who may inspect a wide range of pre-packaged products as part of their allocated duties. Compliance with national legislation governing pre-packaged products applies to the accuracy of the labelling information and contents of all items packaged for sale in all industry sectors. Inspectors must work safely which may include applying basic first aid, working with hazardous materials, working in hazardous environments, completing safety inductions.

While no specific licensing or certification requirements apply to this unit at the time of publication, all inspection operations are governed by the *National Measurement Act 1960*.

Pre-requisite Unit

Nil

Competency Field

Trade measurement

Unit Sector

Elements and Performance Criteria

Elements describe the essential outcomes	Performance criteria describe the performance needed to demonstrate achievement of the element

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1	Prepare for inspection	1.1	Identify and evaluate the type of pre-packaged products to be inspected
		1.2	Access and review any history of previous inspections at trader's premises
		1.3	Access and correctly interpret appropriate documentation required for the inspection
		1.4	Identify and access test equipment, investigation equipment and consumables required for the inspection
		1.5	Ensure specified test equipment is fit for purpose in accordance with applicable legislation and organisational procedures
		1.6	Store and transport test equipment in accordance with organisational procedures and industry best practice
		1.7	Identify workplace health and safety issues relevant to the inspection
2	Initiate inspection	2.1	Identify the site controller, explain the purpose of the inspection and produce formal identification, if required
		2.2	Identify site workplace health and safety issues and implement appropriate control strategies
		2.3	Conduct a preliminary evaluation of the site's trade measurement activities and prioritise inspection to maximise outcomes
		2.4	Identify the range of pre-packaged products at the premises and plan the inspection to achieve maximum outcomes while minimising disruption to the public and trader
3	Inspect packaged article markings	3.1	Identify generic trade measurement marking requirements for pre-packaged products
		3.2	Identify specific trade measurement marking requirements related to the pre-packaged product selected for inspection

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		3.3	Assess measurement, unit pricing and packer identification markings on pre-packaged products for compliance with legislative requirements
4	Measure the net contents of pre-packaged products	4.1	Identify and access National Test Procedures appropriate for measuring the product
		4.2	Select pre-packaged products for measurement in accordance with marketplace intelligence, legislative requirements and organisational policy and procedures
		4.3	Identify, access and apply product handling and disposal requirements in accordance with workplace health and safety and environmental requirements
		4.4	Select specialised equipment, reference standards and measuring devices in accordance with organisational policy and procedures
		4.5	Measure pre-packaged product in accordance with the appropriate National Test Procedures and organisational policy and procedures
		4.6	Evaluate results against prescribed performance criteria and determine if the net contents of the individual pre-packaged products and inspection lot meet legislative requirements
5	Evaluate trader's measurement process	5.1	Examine the process used by the trader to measure a pre-packaged product
		5.2	Evaluate the effectiveness of the trader's measurement procedure, methodology and test frequency against inspection outcomes
		5.3	Inspect measuring instrument operating environment and assess suitability for purpose
		5.4	Evaluate measuring instrument operation against legislative requirements and organisational policy and procedures
		5.5	Modify the operating environment or implement alternative arrangements to ensure reliable operating conditions for the measuring instrument, as necessary

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		5.6	Identify the maximum permissible errors for the instrument from the legislative requirements
		5.7	Inspect measuring instruments in accordance with relevant National Instrument Test Procedures and appropriate National Measurement Institute (NMI) policy
6	Analyse and report inspection results	6.1	Analyse inspection data for unacceptable trends
		6.2	Use test reports to present inspection results in the required format
		6.3	Complete inspection documentation in accordance with legislative requirements and organisational procedures
		6.4	Communicate inspection results within the specified time and in accordance with organisational guidelines
		6.5	Recommend follow-up actions as appropriate
7	Act on non-compliance	7.1	Record and collect evidence of any identified non-compliance in accordance with legislative requirements and organisational policy and procedures
		7.2	Select applicable enforcement action for the non-compliance in accordance with legislative requirements and organisational policy and procedures
		7.3	Inform traders of non-compliances and consequences of failing to have them corrected
		7.4	Implement enforcement action in accordance with legislative requirements and organisational policy and procedures
		7.5	Respect the rights of the trader at all times

Foundation Skills

This section describes those language, literacy, numeracy and employment skills that are essential to performance.

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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.

National Test Procedures include:	• article measurement procedures • any other test procedure prescribed by the NMI
Methods for measuring pre-packaged products include:	• gravimetric mass method • volumetric method • gravimetric volume method • substitution method • displacement method • mass per unit method • volumetric method for garden landscaping material • frozen fish method
Test equipment includes one or more of:	• reference standards • measuring instruments • trolleys • cameras • video and audio recorders
Enforcement actions include one or more of:	• formal warnings, infringement notices, undertakings, injunction and prosecutions
Legislation includes:	• national measurement legislation • applicable Commonwealth, state and territory work/occupational health and safety (WHS/OHS) legislation
NMI policy includes:	• bulletins • instructions • determinations

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WHS/OHS and environmental management requirements include:	• complying with WHS/OHS and environmental management requirements at all times, which may be imposed through state/territory or federal legislation. These requirements must not be compromised at any time • applying standard precautions relating to the potentially hazardous nature of material/product measured • applying any necessary hygiene controls

Unit Mapping Information

Release 2. Adjustments to Application, Performance Criteria and Range of Conditions. Equivalent.

Release 1. Supersedes and is equivalent to MSATMINS404A Inspect a range of pre-packaged products

Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=d1287d36-dff4-4e9f-ad2c-9d6270054027

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Assessment Requirements for MSMTMINS404 Inspect a range of pre-packaged products

Modification History

Release 2. Adjustments to Application, Performance Criteria and Range of Conditions. Equivalent.

Release 1. Supersedes and is equivalent to MSATMINS404A Inspect a range of pre-packaged products

Performance Evidence

Evidence of competence in this unit must satisfy all of the requirements of the elements and performance criteria, and include demonstration of:

- inspecting pre-packaged articles on at least three (3) occasions
- applying each of the following eight (8) methods for measuring pre-packaged products and identifying short measure:
  - gravimetric mass method
  - volumetric method
  - gravimetric volume method
  - substitution method
  - displacement method
  - mass per unit method
  - volumetric method for garden landscaping material
  - frozen fish method
  - accessing and correctly interpreting documents for the inspection of pre-packaged articles, including national measurement legislation, National Instrument Test Procedures and National Measurement Institute (NMI) inspection policy
  - ensuring test equipment and reference standards are fit for purpose in accordance with applicable legislation and organisational procedures
  - planning, preparing for and safely conducting inspections to maximise outcomes and minimise disruption to the public and trader
  - assessing measurement, unit pricing and packer identification markings on pre-packaged products for compliance with legislative requirements
  - determining if the net contents of individual pre-packaged products and an inspection lot meet legislative requirements
  - assessing the effectiveness of the trader's measurement procedure, methodology and test frequency against inspection outcomes
  - checking compliance and evaluating the performance of measuring instruments using appropriate Certificates of Approval, NMI policy and National Instrument Test Procedures, and adjusting for any impact of the operating environment

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- reliably determining if measuring instruments are suitable for trade use in accordance with legislative requirements
- recognising and acting on non-compliance of trading practices or measuring instruments with national measurement legislation and initiating appropriate enforcement action
- demonstrating professionalism and respecting the rights of the trader at all times
- using advanced communication and negotiation skills to:
  - explain the purpose of inspection
  - inform traders of non-compliances and consequences of failing to rectify them
  - access external equipment and resources to complete the inspection
  - explain inspection procedures and outcomes to traders and managers
- performing specified calculations involving:
  - fractions, decimals, ratios, proportions and percentages
  - scientific notation, correct units and the correct number of significant figures
  - interpretation of statistical quantities, such as mean, median, mode, range, variance and standard deviation
- maintaining the security and confidentiality of data in accordance with organisational and regulatory requirements
- reporting results in the required formats and expected timeframe
- working safely.

Knowledge Evidence

Must provide evidence that demonstrates knowledge of:

- general physical principles and concepts, including weight, mass, gravity, volume, length, area and displacement
- metrological terms and terminology, including maximum permissible errors, traceability, uncertainty, inspection lot, deficiency and shortfall
- national measurement legislation applicable to inspection of pre-packaged products and measuring instruments
- safe work method statements (SWMS) for a range of trading environments
- NMI policy requirements, including test procedure variations between a verification, in-service or audit inspection, bulletins, instructions and determinations
- National Instrument Test Procedures and operating procedures for the equipment, and reference standards used in job role, including:
  - test conditions and possible environmental impacts on performance of the instrument
  - key preparation/measurement steps in test method
  - calculation steps to give results in appropriate units and precision
  - maximum permissible errors for measuring instruments under inspection
  - safety principles and procedures relevant to measuring instruments and inspections
  - organisational policy and procedures for inspection of trading practices including completing inspection documentation

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  - organisational safety procedures and requirements of applicable Commonwealth, state and territory work/occupational health and safety (WHS/OHS) legislation
- basic first aid and site safety induction, if required.

Assessment Conditions

- Judgement of competence must be based on holistic assessment of the evidence. Assessment methods must confirm consistency of performance over time, rather than a single assessment event.
- This unit of competency should be assessed in the workplace, or a simulated workplace environment. A simulated workplace environment must reflect realistic operational workplace conditions that cover all aspects of workplace performance, including the environment, task skills, task management skills, contingency management skills and job role environment skills.
- Foundation skills are integral to competent performance of the unit and should not be assessed separately.
- 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.
- Knowledge evidence may be collected concurrently with performance evidence or through an independent process such as workbooks, written assessments or interviews (provided a record is kept in each case).
- This unit of competency may be assessed with:
  - *MSMTMREF301 Use and maintain reference standards*
  - *MSMTMINS401 Inspect a range of weighing instruments*
  - *MSMTMINS402 Inspect liquid measuring instruments using volume measures*
  - *MSMTMINS403 Inspect a range of trading practices*
- Holistic assessment methods include:
  - review of inspection reports prepared by the candidate
  - feedback from supervisors and peers regarding the candidate's ability to inspect a range of pre-packaged products and evaluate a trader’s measuring procedures and instruments in accordance with legislative and organisational procedures
  - questions to assess understanding of relevant procedures, licensing requirements, trader obligations and remedial actions
  - review of candidate’s responses to inspection scenarios, such as potential/actual non-compliances and appropriate actions, common issues and problems
  - observation of the candidate conducting an inspection of a trader’s range of pre-packaged products, measuring procedures and instruments.
- Access is required to instruments, equipment, materials, workplace documentation, procedures, and specifications associated with this unit including, but not limited to:
  - latest versions of appropriate documentation, such as Certificates of Approval, NMI policy, National Instrument Test Procedures for inspection of pre-packaged products, trader measurement procedures and measuring instruments, and relevant legislation
  - equipment manuals, material safety data sheets (MSDS), safety procedures and safety equipment

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  - records, such as test reports; audit reports; instrument history and test results
  - measuring instruments, test equipment and reference standards
  - computer and relevant software and/or organisation information management system.
- Assessors must satisfy the assessor competency requirements that are in place at the time of the assessment as set by the VET regulator.
- The assessor must demonstrate both technical competency and currency.
- Technical competence can be demonstrated through:
  - relevant VET or other qualification/Statement of Attainment AND/OR
  - relevant workplace experience in trade measurement at least to the level being assessed and broad industry knowledge (such as a relevant industry qualification)
- Currency can be demonstrated through:
  - performing the competency being assessed as part of current employment in trade measurement OR
  - having consulted with trade measurement inspectors and/or verifiers performing the competency being assessed within the last twelve months.

Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=d1287d36-dff4-4e9f-ad2c-9d6270054027

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MSMTMINS501 Inspect a range of complex measuring instruments

Modification History

Release 2. Adjustments to the Application, Performance Criteria, Range of Conditions, Adjustments to Performance Evidence, Assessment Conditions and minor corrections. Equivalent.

Release 1. Supersedes and is equivalent to MSATMINS501A Inspect a range of complex measuring instruments

Application

This unit of competency covers the ability to apply National Instrument Test Procedures to determine whether complex measuring instruments are suitable for trade use. It involves the ability to perform significant calculations to assess instrument performance and conduct tests that may require coordination of a range of resources over extended durations in hazardous environments. This unit also involves auditing the performance of verifiers who have previously tested and verified instruments for trade use.

This unit of competency is applicable to trade measurement inspectors appointed under national measurement legislation who may inspect a range of complex measuring instruments as part of their duties. Complex measuring instruments are used in a wide range of industrial environments. For example, automatic rail weighbridges, belt weighers, totalising hoppers, bulk fuel and liquid petroleum gas (LPG) flowmeters are used throughout the mining, road/rail freight and petroleum/gas industry sectors.

Inspections may be performed over extended durations up to five days in non-routine and hazardous environments. Inspectors must work safely which may include using correct manual handling techniques, applying basic first aid, identifying confined spaces, working with hazardous materials, working safely in hazardous environments, working with heavy machinery, use of appropriate workplace clearance forms, safety induction, risk assessment, working at heights and biosecurity issues.

While no specific licensing or certification requirements apply to this unit at the time of publication, all inspection activity is legislated under the *National Measurement Act 1960.*

Pre-requisite Unit

Nil

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Competency Field

Trade measurement

Unit Sector

Elements and Performance Criteria

Elements describe the essential outcomes		Performance criteria describe the performance needed to demonstrate achievement of the element	
1	Prepare for inspection	1.1	Identify and evaluate the type of instrument to be inspected
		1.2	Access and review any history of previous inspection outcomes for the trader and instrument
		1.3	Access and correctly interpret documentation required for the inspection
		1.4	Identify and access test equipment, products and consumables required for the inspection
		1.5	Ensure test equipment is fit for purpose in accordance with applicable legislation and organisational procedures
		1.6	Store and transport equipment in accordance with organisational procedures and industry best practice
		1.7	Identify workplace health and safety issues relevant to the inspection
		1.8	Develop an inspection strategy to maximise resources and minimise time required to complete the inspection
2	Liaise with the trader to schedule complex tests	2.1	Discuss inspection arrangements with site controller where applicable
		2.2	Identify relevant local workplace, health and safety issues and implement appropriate control strategies
		2.3	Discuss the inspection strategy with the trader to minimise its impact on the trader's normal operations

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		2.4	Arrange site clearances and suitable scheduling for tests
		2.5	Negotiate access to trader's equipment, materials and support personnel required for testing to be available on site
		2.6	Arrange for any equipment to be provided by the trader, if required.
3	Initiate inspection	3.1	Identify the site controller, explain/review the purpose of the inspection and, if required, produce formal identification
		3.2	Review inspection strategy to ensure there is minimal disruption to the public and/or trader
		3.3	Communicate inspection strategy to all personnel involved
		3.4	Identify locations for product return or disposal if applicable
		3.5	Evaluate the impacts of the operating environment on the instrument performance or test results and, where applicable, implement corrective actions
		3.6	Identify operational factors impacting on instrument performance or test result and, where applicable, implement corrective actions
4	Evaluate complex measuring instrument performance	4.1	Identify the maximum permissible errors for the instrument from the legislative requirements
		4.2	Manage and review resources to maintain inspection timelines
		4.3	Provide effective communication to ensure relevant personnel are informed of variations to the inspection strategy and inspection progress
		4.4	Check instrument for compliance with the appropriate Certificates of Approval
		4.5	Inspect the instrument in accordance with relevant National Instrument Test Procedures and appropriate

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			National Measurement Institute (NMI) policy
5	Analyse inspection results	5.1	Perform specified calculations to determine a performance result for the instrument with appropriate accuracy, precision and significant figures
		5.2	Use graphical and statistical analysis to analyse results as necessary
		5.3	Analyse inspection data for unacceptable performance trends
		5.4	Ensure results are consistent with reasonable expectations and estimations
		5.5	Evaluate results against prescribed performance criteria and determine if the instrument is suitable for trade use in accordance with legislative requirements
6	Evaluate verifier performance	6.1	Analyse verifiers' complex instrument test reports to identify potential verifier performance deficiencies
		6.2	Identify the scope of the verifier performance audit
		6.3	Identify the expected outcomes of the verifier performance audit
		6.4	Communicate the scope and process of the performance audit to the verifier
		6.5	Assess the verifier's performance against the expected outcome
		6.6	Analyse any variances from the expected outcomes to identify any isolated or systemic problems
		6.7	Clearly communicate the results of the performance audit to the verifier, including any rectification requirements, in accordance with legislative requirements and organisational policies and procedures
7	Report inspection results	7.1	If required, display the inspection result on the instrument in accordance with legislative requirements

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		7.2	Use test reports to present inspection results in the required format
		7.3	Complete inspection documentation in accordance with legislative requirements and organisational procedures
		7.4	Communicate inspection results within the specified time and in accordance with organisational guidelines
		7.5	Recommend corrective actions as appropriate
8	Act on non-compliance	8.1	Select applicable enforcement action for the non-compliance in accordance with legislative requirements and organisational policy and procedures
		8.2	Inform traders of non-compliances and consequences of failing to have them corrected
		8.3	Implement enforcement action in accordance with legislative requirements and organisational policy and procedures
		8.4	Respect the rights of the trader at all times

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.

National Instrument Test Procedures include one or more of:	• measurement instrument test procedures • any other test procedure prescribed by the NMI

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Classes of complex measuring instruments include one or more of:	• non-automatic weighing machines >3 tonne • LPG dispensers • bulk LPG flowmetering systems • bulk flowmetering systems for liquid hydrocarbons other than LPG • bulk flowmetering systems for liquid products **other than** liquid hydrocarbons • dispensers and flowmetering systems for gaseous products (excluding utility meters) • automatic rail weighbridges • continuous totalising automatic weighing instruments (belt weighers) • discontinuous totalising hopper weighing instruments • any other complex measuring instrument prescribed by the NMI
Test equipment includes:	• reference standards of measurement • equipment, such as weighing instruments, pumping units, two-way communication, LPG cylinders, hoses, fittings, rail wagons, trains and tankers
Certificates of Approval include:	• any Certificate issued by the Chief Metrologist under Regulation 60 of the *National Measurement Regulations 1999* approving the pattern of a complex weighing instrument as being suitable for trade
Prescribed performance criteria for complex measuring instruments include:	• that the instrument is of an approved pattern • that the instrument operates within the appropriate limits of error permitted by legislation • that the instrument is used in accordance with any legislative requirements
Verification	Has the same meaning as Section 18GG of the *National Measurement Act 1960*
Verification marks	Verification marks for different instruments are defined in Regulations 2.28 and 2.29 of the *National Trade Measurement Regulations 2009*

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Trading practices include one or more of:	• methods used for the sale of goods • using measuring instruments • position of measuring instruments • environmental factors • suitability of instrument • incorrect measurement
Enforcement actions include one or more of:	• formal warnings, infringement notices, undertakings, injunction and prosecutions
Legislation includes:	• national measurement legislation • applicable Commonwealth, state and territory work/occupational health and safety (WHS/OHS) legislation
NMI policy includes:	• test procedure variations between a verification, in-service or audit inspection • bulletins • instructions • determinations
WHS/OHS and environmental management requirements include:	• complying with WHS/OHS and environmental management requirements at all times, which may be imposed through state/territory or federal legislation. These requirements must not be compromised at any time • applying standard precautions relating to the potentially hazardous nature of material/product measured • applying any necessary hygiene controls

Unit Mapping Information

Release 2. Adjustments to the Application, Performance Criteria, Range of Conditions, Adjustments to Performance Evidence, Assessment Conditions and minor corrections. Equivalent.

Release 1. Supersedes and is equivalent to MSATMINS501A Inspect a range of complex measuring instruments

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Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=d1287d36-dff4-4e9f-ad2c-9d6270054027

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Assessment Requirements for MSMTMINS501 Inspect a range of complex measuring instruments

Modification History

Release 2. Adjustments to the Application, Performance Criteria, Range of Conditions, Adjustments to Performance Evidence, Assessment Conditions and minor corrections. Equivalent.

Release 1. Supersedes and is equivalent to MSATMINS501A Inspect a range of complex measuring instruments

Performance Evidence

Evidence of competence in this unit must satisfy all of the requirements of the elements and performance criteria, and include demonstration of:

- completing initial verification testing of one or more of the following complex weighing instruments:
  - non-automatic weighing machines >3 tonne
  - automatic rail weighbridges
  - continuous totalising automatic weighing instruments (belt weighers)
  - discontinuous totalising hopper weighing instruments
- completing initial verification testing of one or more of the following complex fuel instruments:
  - LPG dispensers
  - bulk flowmetering systems for liquid hydrocarbons other than LPG
  - bulk LPG flowmetering systems
  - bulk flowmetering systems for liquid products other than liquid hydrocarbons
  - dispensers and flowmetering systems for gaseous products (excluding utility meters)
  - any other complex measuring instrument prescribed by the NMI
- accessing and correctly interpreting documentation required for inspections, evaluation of instruments and verifier audits
- ensuring test equipment and reference standards are fit for purpose in accordance with applicable legislation and organisational procedures
- planning, scheduling, preparing for and safely conducting inspections to optimise use of resources, maximise outcomes and minimise disruption to the public and trader
- checking compliance and evaluating the performance of complex measuring instruments using appropriate Certificates of Approval, NMI policy and National Instrument Test Procedures, and adjusting for any impact of the operating environment
- using specified calculations, graphical and statistical analysis to determine a performance result for a complex measuring instrument
- reliably determining if complex measuring instruments are suitable for trade use in accordance with legislative requirements

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- conducting at least one (1) verifier performance audit, to assess the performance of verifiers who test and mark measuring instruments for trade use
- assessing verifier performance against expected outcomes and analysing any variances to identify isolated or systemic problems
- identifying potential non-compliance of trading practices (applicable to instruments) with national measurement legislation and initiating an efficient inspection strategy that has a limited impact on others
- recognising and acting on non-compliance of complex measuring instrument or verifier performance and/or trading practices with national measurement legislation and initiating appropriate enforcement action
- demonstrating professionalism and respecting the rights of the trader at all times
- using advanced communication and negotiation skills to:
  - explain the purpose of inspection
  - arrange site clearances, gain cooperation of site controllers and schedule complex tests
  - access trader's equipment and equipment, materials and support personnel to complete the inspection, when necessary
  - inform traders of non-compliances and consequences of failing to rectify them
  - explain inspection procedures and outcomes to traders, verifiers and managers
  - organise large equipment to be dispatched ahead of inspection visit, when necessary
- performing specified calculations involving:
  - fractions, decimals, ratios, proportions and percentages
  - scientific notation, correct units and the correct number of significant figures, calculation of uncertainties
  - evaluation of formulae containing powers, exponents and logarithms functions
  - preparation and interpretation of linear graphs
- maintaining the security and confidentiality of data in accordance with organisational and regulatory requirements
- reporting results in the required formats and expected timeframe
- working safely.

Knowledge Evidence

Must provide evidence that demonstrates knowledge of:

- general science principles and concepts, including:
  - physical states (solid, liquid and gas), weight, mass, gravity and density
  - pressure, pressure differential, backpressure and head pressure, fluid flow and viscosity
  - temperature effects and coefficients of expansion, flashpoint, boiling point and ice point
- metrological terms and terminology of specific instruments, such as maximum permissible errors, maximum permissible difference and maximum permissible variation, traceability, repeatability, uncertainty, error of measurement and error of indication, meter creep, hose dilation, temperature correction, linearization and gas elimination

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- details of the design and applications for one (1) complex measuring instrument in each class, the major instrument components and their function
- national measurement legislation applicable to complex measuring instruments
- safe work method statements (SWMS) for a range of trading environments, such as laboratories, retail, commercial, office, manufacturing, industrial, mining, construction, medical, chemical and petroleum
- NMI policy requirements, including test procedure variations between a verification, in-service or audit inspection, bulletins, instructions and determinations
- National Instrument Test Procedures and operating procedures for equipment and reference standards used in job role, including:
  - test conditions and possible environmental impacts on performance of the instrument
  - key preparation/measurement steps in test method
  - calculation steps to give results in appropriate units and precision
  - maximum permissible errors for instruments being inspected
  - safety principles and procedures relevant to instruments
  - organisational policy and procedures for inspecting complex measuring instruments including completing inspection documentation
  - organisational safety procedures and requirements of applicable Commonwealth, state and territory WHS/OHS legislation
- basic first aid and site safety induction, if required.

Assessment Conditions

- Judgement of competence must be based on holistic assessment of the evidence. Assessment methods must confirm consistency of performance over time, rather than a single assessment event.
- This unit of competency should be assessed in the workplace, or a simulated workplace environment. A simulated workplace environment must reflect realistic operational workplace conditions that cover all aspects of workplace performance, including the environment, task skills, task management skills, contingency management skills and job role environment skills.
- Foundation skills are integral to competent performance of the unit and should not be assessed separately.
- 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.
- Knowledge evidence may be collected concurrently with performance evidence or through an independent process, such as workbooks, written assessments or interviews (provided a record is kept in each case).
- This unit of competency may be assessed with:
  - *MSMTMREF301 Use and maintain reference standards*
- Holistic assessment methods include:
  - review of test results, inspection reports and verifier performance reports prepared by the candidate

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    - feedback from supervisors and peers regarding the candidate's ability to conduct inspections, evaluate the performance of complex measuring instruments and audit verifier's performance in accordance with legislative and organisational procedures
    - questions to assess understanding of relevant procedures, licensing requirements, trader obligations and remedial actions
    - review of candidate's responses to inspection scenarios, such as: potential/actual non-compliances and appropriate actions, common issues and problems
    - observation of the candidate conducting an inspection.
- Access is required to instruments, equipment, materials, workplace documentation, procedures, and specifications associated with this unit including, but not limited to:
    - latest versions of appropriate documentation, such as Certificates of Verification and Approval, NMI policy, National Instrument Test Procedures for verifying complex measuring instruments and relevant legislation
    - equipment manuals, safety data sheets (SDS), safety procedures and safety equipment
    - records, such as test reports; audit reports; instrument history and test results; and correction tables for volume, density and pressure for a range of liquids
    - complex measuring instruments, test equipment and reference standards
    - computer and relevant software and/or organisation information management system.
- Assessors must satisfy the assessor competency requirements that are in place at the time of the assessment as set by the VET regulator.
- The assessor must demonstrate both technical competency and currency.
- Technical competence can be demonstrated through:
    - relevant VET or other qualification/Statement of Attainment AND/OR
    - relevant workplace experience in trade measurement at least to the level being assessed and broad industry knowledge (such as a relevant industry qualification).
- Currency can be demonstrated through:
    - performing the competency being assessed as part of current employment in trade measurement OR
    - having consulted with trade measurement inspectors and/or verifiers performing the competency being assessed within the last twelve months.

Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=d1287d36-dff4-4e9f-ad2c-9d6270054027

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MSMTMREF301 Use and maintain reference standards

Modification History

Release 2. Adjustments to Application and Range of Conditions. Adjustment to Assessment Conditions. Equivalent.

Release 1. Supersedes and is equivalent to MSATMREF301A Use and maintain reference standards

Application

This unit of competency covers the ability to select and use appropriate reference standards of measurement in accordance with standard procedures and industry best practice. It also involves storing and transporting reference standards correctly and maintaining their integrity during all trade measurement activities.

This unit of competency is applicable to trade measurement inspectors appointed under national measurement legislation who may use reference standards of measurement for inspecting a range of pre-packaged products, trading practices or measuring instruments as part of their allocated duties. The unit also covers verifiers operating under a servicing licence who use reference standards of measurement to test and verify specific classes of measuring instruments used for trade. Inspectors and verifiers must work safely and this may require applying basic first aid, entering confined spaces, working with heavy machinery and site safety induction.

While no specific licensing or certification requirements apply to this unit at the time of publication, all inspection activity is legislated under the *National Measurement Act 1960*.

Pre-requisite Unit

Nil

Competency Field

Trade measurement

Unit Sector

Elements and Performance Criteria

Elements describe the Performance criteria describe the performance needed to

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essential outcomes		demonstrate achievement of the element	
1	Maintain reference standard integrity	1.1	Identify environmental issues that may impact on reference standard integrity and implement appropriate control strategies
		1.2	Store, transport and handle reference standards in accordance with organisational procedures and industry best practice
		1.3	Quarantine and report damaged or compromised reference standards in accordance with organisational procedures
		1.4	Plan and organise reference standard maintenance and calibration in accordance with legislative requirements and organisational procedures
		1.5	Update maintenance and calibration records in accordance with organisational procedures
		1.6	Ensure that personnel assisting with the activity use correct handling procedures for reference standards
2	Select appropriate reference standards	2.1	Identify the scope and expected outcomes of the planned activity
		2.2	Identify and access reference standards appropriate to the activity
		2.3	Evaluate reference standard limitations associated with the activity and operating environment
		2.4	Validate reference standard suitability against the activity scope and expected outcomes in accordance with legislative requirements and organisational policy and procedures
3	Use reference standards	3.1	Review the expected outcomes for the activity
		3.2	Access and interpret reference standard Certificates of Verification and measurement reports
		3.3	Condition the reference standard as required to produce

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			consistent and accurate measurements
		3.4	Identify, interpret and apply reference standard corrections as required
		3.5	Assess the results of the activity against the prescribed performance criteria
		3.6	Analyse any variances from the expected outcomes to identify any isolated or systemic problems linked to the reference standard or its use
4	Maintain a safe work environment	4.1	Use established safe work practices and personal protective equipment to ensure personal safety and that of other personnel
		4.2	Identify relevant local workplace, health and safety issues and implement appropriate control strategies
		4.3	Handle reference standards safely in accordance with applicable legislation and organisational 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 include one or more of:	• National Instrument Test Procedures prescribed by the NMI • article measurement procedures • any other test procedure prescribed by the NMI
Regulatory requirements	• Regulation 13 or 48 Certificates for each reference standard

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include:

Legislation includes:

- national measurement legislation
- applicable Commonwealth, state and territory work/occupational health and safety (WHS/OHS) legislation

NMI guidance includes:

- bulletins
- instructions
- determinations
- updates

WHS/OHS and environmental management requirements include:

- complying with WHS/OHS and environmental management requirements at all times, which may be imposed through state/territory or federal legislation. These requirements must not be compromised at any time
- applying standard precautions relating to the potentially hazardous nature of material/product measured
- applying any necessary hygiene controls

Unit Mapping Information

Release 2. Adjustments to Application and Range of Conditions. Adjustment to Assessment Conditions. Equivalent.

Release 1. Supersedes and is equivalent to MSATMREF301A Use and maintain reference standards

Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=d1287d36-dff4-4e9f-ad2c-9d6270054027

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Assessment Requirements for MSMTMREF301 Use and maintain reference standards

Modification History

Release 2. Adjustments to Application and Range of Conditions. Adjustment to Assessment Conditions. Equivalent.

Release 1. Supersedes and is equivalent to MSATMREF301A Use and maintain reference standards

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 demonstration of:

- selecting, calibrating, using and maintaining appropriate reference standards in accordance with specified procedures on at least three (3) occasions
- maintaining the integrity of reference standards by controlling the operating environment and ensuring that all storage, transport and handling is in accordance with organisational procedures and industry best practice
- ensuring that the inspection, maintenance, calibration and documented status of reference standards are completed in accordance with organisational procedures
- selecting appropriate reference standards for specific trade measurement activities after careful consideration of the activity's scope, and expected outcomes and limitations, including the operating environment
- validating reference standard suitability against the activity's scope and expected outcomes in accordance with legislative requirements and organisational policy and procedures
- accessing and accurately interpreting reference standard Certificates of Verification, information about tolerances and measurement reports
- using the reference standard correctly, including conditioning and applying corrections, as required, to produce consistent and accurate measurements
- assessing results of trade measurement activities and analysing any variances from the expected outcomes to identify any isolated or systemic problems linked to the reference standard or its use
- using advanced communication and negotiation skills to:
  - explain the purpose of the trade measurement activities
  - access external equipment and resources to complete the activity
  - explain procedures and expected outcomes of activities to traders and managers
  - organise large reference standards to be dispatched ahead of visit to trader's premises
- performing specified calculations involving:
  - fractions, decimals, ratios, proportions and percentages
  - scientific notation, correct units and the correct number of significant figures

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    - interpretation of statistical quantities, such as mean, median, mode, range, variance and standard deviation
- maintaining the security and confidentiality of data in accordance with organisational and regulatory requirements
- reporting results in the required formats and expected timeframe
- working safely.

Knowledge Evidence

Must provide evidence that demonstrates knowledge of:

- general physical principles and concepts, including weight, mass, gravity, density, volume, length and area
- metrological terms, including maximum permissible errors, maximum permissible variations, traceability and uncertainty
- Australian legal units of measurement
- organisations involved in legal metrology in Australia
- hierarchy and classes of reference standards used in legal metrology
- purpose of Certificates of Verification issued under the national measurement legislation and the information contained in them
- National Measurement Institute (NMI) policy requirements and National Instrument Test Procedures and operating procedures for equipment and reference standards used in job role, including:
    - transport/storage specifications and procedures for test/specialised equipment and reference standards, and variations requiring approval
    - maintenance requirements for reference standards and test equipment, including when manufacturer's requirements are unavailable
    - procedures covering maintenance, recording and reporting faults and calibration
    - actions to be taken where legal traceability cannot be confirmed
    - actions to be taken if reference standards and test equipment are found to be defective
    - article measurement and measuring instrument test procedures
    - test conditions and possible environmental impacts on performance of reference standards and measuring instruments
    - key preparation/measurement steps in test method
    - calculation steps to give results in appropriate units and precision
    - maximum permissible errors for instruments under test and tolerances for reference standards
    - organisational safety procedures and requirements of applicable Commonwealth, state and territory work/occupational health and safety (WHS/OHS) legislation
- basic first aid and site safety induction, if required.

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Assessment Conditions

- Judgement of competence must be based on holistic assessment of the evidence. Assessment methods must confirm consistency of performance over time, rather than a single assessment event.
- This unit of competency should be assessed in the workplace, or a simulated workplace environment. A simulated workplace environment must reflect realistic operational workplace conditions that cover all aspects of workplace performance, including the environment, task skills, task management skills, contingency management skills and job role environment skills.
- Foundation skills are integral to competent performance of the unit and should not be assessed separately.
- 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.
- Knowledge evidence may be collected concurrently with performance evidence or through an independent process, such as workbooks, written assessments or interviews (provided a record is kept in each case).
- This unit of competency may be assessed with MSMTM units dealing with the inspection or verification of trade measurement instruments and inspection of trading practices and pre-packaged products.
- Holistic assessment methods include:
  - review of maintenance and calibration records and analysis of results from trade measurement activities prepared by the candidate
  - feedback from supervisors and peers regarding the candidate's ability to use and maintain reference standards in accordance with legislative and organisational procedures
  - questions to assess understanding of relevant procedures and specific actions required in response to given reference standard scenarios
  - observation of the candidate using and/or maintaining reference standards.
- Access is required to instruments, equipment, materials, workplace documentation, procedures and specifications associated with this unit, including, but not limited to:
  - latest versions of appropriate documentation, such as Certificates of Verification, NMI policy, National Instrument Test Procedures for using reference standards and relevant legislation
  - equipment manuals, safety data sheets (SDS), safety procedures and safety equipment
  - records, such as test reports, audit reports, instrument history and test results
  - measuring instruments, test equipment and reference standards
  - computer and relevant software and/or organisation information management system.
- Assessors must satisfy the assessor competency requirements that are in place at the time of the assessment as set by the VET regulator.
- The assessor must demonstrate both technical competency and currency.
- Technical competence can be demonstrated through:
  - relevant VET or other qualification/Statement of Attainment AND/OR
  - relevant workplace experience in trade measurement at least to the level being assessed and broad industry knowledge (such as a relevant industry qualification).

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- Currency can be demonstrated through:
  - performing the competency being assessed as part of current employment in trade measurement OR
  - having consulted with trade measurement inspectors and/or verifiers performing the competency being assessed within the last twelve months.

Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=d1287d36-dff4-4e9f-ad2c-9d6270054027

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MSMTMVER301 Verify simple measures

Modification History

Release 2. Adjustments to the Application and Range of Conditions. Adjustment to Assessment Conditions. Equivalent.

Release 1. Supersedes and is equivalent to MSATMVER301A Verify simple measures

Application

This unit of competency covers the ability to apply National Instrument Test Procedures to determine whether simple measures of a particular class are suitable for trade use and to mark them accordingly.

This unit of competency is applicable to verifiers operating under a servicing licence to test and mark a specific class of simple measures. Simple measures such as trade masses, length measures and volume measures are used in a wide variety of commerce including retail, hospitality, pharmaceuticals and laboratory services.

Under the requirements of Regulation 2.43 of the *National Trade Measurement Regulations 2009*, a servicing licensee or an employee must not verify a measure relevant to this unit unless they hold a statement of attainment for this unit of competency.

Pre-requisite Unit

Nil

Competency Field

Trade measurement

Unit Sector

Elements and Performance Criteria

Elements describe the essential outcomes		Performance criteria describe the performance needed to demonstrate achievement of the element	
1	Prepare for	1.1	Identify and evaluate the type of simple measure to be

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	verification		verified
		1.2	Access and correctly interpret documentation required for the verification
		1.3	Identify and access test equipment, products and consumables required for the verification
		1.4	Liaise with the trader to provide the items required on site
		1.5	Ensure specified test equipment is fit for purpose in accordance with applicable legislation and organisational procedures
		1.6	Store and transport test equipment in accordance with organisational procedures and industry best practice
		1.7	Identify relevant local workplace health and safety issues and implement appropriate control strategies
2	Evaluate simple measure performance	2.1	Evaluate whether the operating environment will impact on the performance of the simple measure
		2.2	Modify the operating environment or implement alternative arrangements to ensure reliable test conditions as necessary
		2.3	Identify the maximum permissible errors for the simple measure from the legislative requirements
		2.4	Use test equipment safely in accordance with applicable legislation and organisational procedures
		2.5	Check simple measure for compliance with the appropriate Certificates of Approval
		2.6	Inspect simple measure in accordance with relevant National Instrument Test Procedures and appropriate National Measurement Institute (NMI) guidance
		2.7	Evaluate results against prescribed performance criteria and determine if the simple measure is suitable for trade use in accordance with legislative requirements
3	Report verification	3.1	Display the verification result on the simple measure in

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	results		accordance with legislative requirements
		3.2	Use test reports to present verification results in the required format
		3.3	Complete verification documentation in accordance with legislative requirements and organisational procedures
		3.4	Communicate results within the specified time and in accordance with organisational guidelines
4	Model and encourage compliance with statutory requirements	4.1	Apply organisation's quality procedures and practices to meet servicing licensee's legislative obligations
		4.2	Clarify any issues about verifier obligations with their servicing licensee and/or licensing administering authority as they arise
		4.3	Review work and seek feedback from others to confirm continuing compliance with legislative requirements
		4.4	Identify implications of non-compliance with legislative requirements
		4.5	Identify inadequacies in trader's use of measures which may contribute to non-compliance with national measurement legislation
		4.6	Explain inadequacies and possible remedial actions to trader
		4.7	Respect the rights of the trader at all times
5	Maintain statutory records	5.1	Keep accurate and complete records in accordance with servicing licensee's legislative requirements
		5.2	Ensure authorisation, training and relevant licences are current in accordance with organisational and servicing licensee's legislative requirements
		5.3	Inform the licensing administering authority of changes to personal information as required by statute

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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.

National Instrument Test Procedures include one or more of:	• measuring instrument test procedures • any other test procedure prescribed by the NMI
Classes of simple measures include one or more of:	• length measures • alcoholic beverage measures • lubricating oil measures • graduated measures • pharmaceutical measures • trade masses • any other simple measure prescribed by the NMI
Test equipment includes:	• reference standards of measurement • equipment, such as weighing instruments, strikes and funnels
Certificates of Approval include:	• any Certificate issued by the Chief Metrologist under Regulation 60 of the *National Measurement Regulations 1999* approving the pattern of a simple measure as being suitable for trade
Prescribed performance criteria for simple measures include:	• that the instrument is of an approved pattern • that the instrument operates within the appropriate limits of error permitted by legislation • that the instrument is used in accordance with any legislative requirements

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Verification	Has the same meaning as Section 18GG of the *National Measurement Act 1960*
Verification marks	Verification marks for different instruments are defined in Regulations 2.28 and 2.29 of the *National Trade Measurement Regulations 2009*
Trading practices include one or more of:	• methods used for the sale of goods • using measuring instruments • position of measuring instruments • environmental factors • suitability of instrument • incorrect measurement
Legislation includes:	• national measurement legislation • applicable Commonwealth, state and territory work/occupational health and safety (WHS/OHS) legislation
NMI guidance includes:	• NMI sanctioned variances to National Instrument Test Procedures for verification • updates • directives
WHS/OHS and environmental management requirements include:	• complying with WHS/OHS and environmental management requirements at all times, which may be imposed through state/territory or federal legislation. These requirements must not be compromised at any time • applying standard precautions relating to the potentially hazardous nature of material/product measured • applying any necessary hygiene controls

Unit Mapping Information

Release 2. Adjustments to the Application and Range of Conditions. Adjustment to Assessment Conditions. Equivalent.

Release 1. Supersedes and is equivalent to MSATMVER301A Verify simple measures

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Links

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Assessment Requirements for MSMTMVER301 Verify simple measures

Modification History

Release 2. Adjustments to the Application and Range of Conditions. Adjustment to Assessment Conditions. Equivalent.

Release 1. Supersedes and is equivalent to MSATMVER301A Verify simple measures

Performance Evidence

Evidence of competence in this unit must satisfy all of the requirements of the elements and performance criteria, and include demonstration of:

- testing and marking at least three (3) measures from one (1) or more of the following classes of simple measures:
  - length measures
  - alcoholic beverage measures
  - lubricating oil measures
  - graduated measures
  - pharmaceutical measures
  - trade masses
- accessing and correctly interpreting documentation required for verification of simple measures
- planning, scheduling, preparing for and safely conducting a verification to optimise use of resources and minimise disruption to the public and trader
- ensuring test equipment and reference standards are fit for purpose in accordance with applicable legislation and organisational procedures
- checking compliance and evaluating the performance of simple measures using appropriate Certificates of Approval, National Measurement Institute (NMI) policy and National Instrument Test Procedures, and adjusting for any impact of the operating environment and operational factors
- reliably determining if simple measures are suitable for trade use in accordance with legislative requirements
- displaying the verification result on simple measures and completing all verification documentation in accordance with legislative requirements and organisational procedures
- identifying and communicating any inadequacies in servicing licensee's organisational procedures and practices that may contribute to non-compliance with legislative requirements
- maintaining the accuracy, completeness and currency of statutory records required of servicing licensees, such as authorisation, training and relevant licences
- identifying and communicating any inadequacies in trader's use of simple measures which may contribute to non-compliance with national measurement legislation

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- demonstrating professionalism and respecting the rights of the trader at all times
- using routine communication and negotiation skills to:
  - explain the verification purpose, procedures and outcomes to traders, verifiers and managers
  - inform traders of non-compliances and consequences of failing to rectify them
- using numeric skills to:
  - perform calculations involving fractions, decimals, ratios, proportions and percentages
  - use correct units and the correct number of significant figures
  - analyse performance results over a single or limited range of operating conditions
- maintaining the security and confidentiality of data in accordance with organisational and regulatory requirements
- reporting results in the required formats and expected timeframe
- working safely.

Knowledge Evidence

Must provide evidence that demonstrates knowledge of:

- general science principles and concepts, such as weight, mass, gravity, density, heat, temperature effects and coefficients of expansion
- metrological terms and terminology specific to simple measures, such as maximum permissible errors, traceability, error of measurement and error of indication
- details of the design and applications for one (1) class of simple measures, the components and their function
- servicing licensee requirements, including:
  - quality management system
  - licence conditions
  - maintenance of statutory records
- national measurement legislation requirements for simple measures
- safe work method statements (SWMS) for trading environments relevant to job role
- NMI policy, National Instrument Test Procedures and operating procedures for equipment, and reference standards used in job role, including:
  - purpose of test, test conditions and possible environmental impacts on performance of the simple measure
  - key preparation/measurement steps in the test method
  - maximum permissible errors for simple measures being verified
  - organisational policy and procedures for verifying simple measures, including completion of test results, verification documents and statutory records
  - organisational safety procedures and requirements of applicable Commonwealth, state and territory work/occupational health and safety (WHS/OHS) legislation.

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Assessment Conditions

- Judgement of competence must be based on holistic assessment of the evidence. Assessment methods must confirm consistency of performance over time, rather than a single assessment event.
- This unit of competency should be assessed in the workplace, or a simulated workplace environment. A simulated workplace environment must reflect realistic operational workplace conditions that cover all aspects of workplace performance, including the environment, task skills, task management skills, contingency management skills and job role environment skills.
- Foundation skills are integral to competent performance of the unit and should not be assessed separately. 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.
- Knowledge evidence may be collected concurrently with performance evidence or through an independent process such as workbooks, written assessments or interviews (provided a record is kept in each case).
- This unit of competency may be assessed with:
  - *MSMTMREF301 Use and maintain reference standards*
- Holistic assessment methods include:
  - review of test results, verification documentation and statutory records completed by the candidate
  - feedback from supervisors and peers regarding the candidate's ability to verify the performance of simple measures in accordance with legislative and organisational procedures
  - questions to assess understanding of relevant verification procedures, servicing licensee requirements, trader obligations and remedial actions
  - review of candidate’s responses to verification scenarios such as potential/actual non-compliances of traders and verifiers, appropriate actions, common issues and problems
  - observation of the candidate verifying simple measures.
- Access is required to simple measures, equipment, materials, workplace documentation, procedures and specifications associated with this unit, including, but not limited to:
  - latest versions of appropriate documentation, such as Certificates of Verification and Approval, NMI policy, National Instrument Test Procedures for verifying simple measures and relevant legislation
  - equipment manuals, safety data sheets (SDS), safety procedures and safety equipment
  - records, such as test reports, audit reports, simple measure history and test results
  - simple measures, test equipment and reference standards
  - computer and relevant software and/or organisation information management system.
- Assessors must satisfy the assessor competency requirements that are in place at the time of the assessment as set by the VET regulator.
- The assessor must demonstrate both technical competency and currency.
- Technical competence can be demonstrated through:

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  - relevant VET or other qualification/Statement of Attainment AND/OR
  - relevant workplace experience in trade measurement at least to the level being assessed and broad industry knowledge (such as a relevant industry qualification).
- Currency can be demonstrated through:
  - performing the competency being assessed as part of current employment in trade measurement OR
  - having consulted with trade measurement inspectors and/or verifiers performing the competency being assessed within the last twelve months.

Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=d1287d36-dff4-4e9f-ad2c-9d6270054027

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MSMTMVER302 Verify simple measuring instruments

Modification History

Release 2. Corrections and adjustments to Application, Performance Criteria and Range of Conditions. Adjustment to Performance Evidence, and Assessment Conditions. Equivalent.

Release 1. Supersedes and is equivalent to MSATMVER302A Verify a simple measuring instrument

Application

This unit of competency covers the ability to apply National Instrument Test Procedures to determine whether simple measuring instruments of a particular class are suitable for trade use and then mark it accordingly.

This unit of competency is applicable to verifiers operating under a servicing licence to test and mark a specific class of simple measuring instruments. Simple measuring instruments are used in a very wide range of commerce. Measuring instruments are used to measure liquids in tanks; multi-dimensional measuring instruments are used to measure the cubic measurements of packages for freight; length/area instruments are used to accurately measure a wide range of articles sold by reference to those measurements; quality measuring instruments are used to measure certain characteristics of commodities such as protein content of grain; and point of sale systems (POS systems) and control systems for liquid-measuring instruments (Consoles) are systems connected to approved measuring instruments that are used to transform or supplement displayed and/or printed measurement data and/or control certain functions of the connected instrument.

Under the requirements of Regulation 2.43 of the *National Trade Measurement Regulations 2009*, a servicing licensee or an employee must not verify a measuring instrument relevant to this unit unless they hold a statement of attainment for this unit of competency.

Pre-requisite Unit

Nil

Competency Field

Trade measurement

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Unit Sector

Elements and Performance Criteria

Elements describe the essential outcomes		Performance criteria describe the performance needed to demonstrate achievement of the element	
1	Prepare for verification	1.1	Identify and evaluate the type of instrument to be verified
		1.2	Access and correctly interpret documentation required for the verification
		1.3	Identify and access test equipment, products and consumables required for the verification
		1.4	Liaise with the trader to provide the items required on site
		1.5	Ensure specified test equipment or reference material is fit for purpose in accordance with applicable legislation and organisational procedures
		1.6	Store and transport test equipment or reference material in accordance with organisational procedures and industry best practice
		1.7	Identify relevant local workplace health and safety issues and implement appropriate control strategies
2	Evaluate simple measuring instrument performance	2.1	Evaluate whether the operating environment will impact on the instrument performance
		2.2	Modify the operating environment or implement alternative arrangements to ensure reliable test conditions as necessary
		2.3	Identify the maximum permissible errors for the instrument from the legislative requirements
		2.4	Use test equipment safely in accordance with applicable legislation and organisational procedures
		2.5	Check instrument for compliance with the appropriate Certificates of Approval

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		2.6	Inspect the instrument in accordance with relevant National Instrument Test Procedures and appropriate National Measurement Institute (NMI) guidance
		2.7	Evaluate results against prescribed performance criteria and determine if the instrument is suitable for trade use in accordance with legislative requirements
3	Report verification results	3.1	Display the verification result on the instrument in accordance with legislative requirements
		3.2	Use test reports to present verification results in the required format
		3.3	Complete verification documentation in accordance with legislative requirements and organisational procedures
		3.4	Communicate results within the specified time and in accordance with organisational guidelines
4	Model and encourage compliance with statutory requirements	4.1	Apply organisation's quality procedures and practices to meet servicing licensee's legislative obligations
		4.2	Clarify any issues about verifier obligations with their servicing licensee and/or licensing administering authority as they arise
		4.3	Review work and seek feedback from others to confirm continuing compliance with legislative requirements
		4.4	Identify implications of non-compliance with legislative requirements
		4.5	Identify inadequacies in trader's use of instruments which may contribute to non-compliance with national measurement legislation
		4.6	Explain inadequacies and possible remedial actions to trader
		4.7	Respect the rights of the trader at all times
5	Maintain statutory	5.1	Keep accurate and complete records in accordance with

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records		servicing licensee's legislative requirements
	5.2	Ensure authorisation, training and relevant licences are current in accordance with organisational and servicing licensee's legislative requirements
	5.3	Inform the licensing administering authority of changes to personal information as required by statute

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.

National Instrument Test Procedures include one or more of:	• measuring instrument test procedures • any other test procedure prescribed by the NMI
Classes of simple measuring instruments include one or more of:	• beverage measuring instruments • protein quality measuring instruments • grain density measuring instrument • sugar quality measuring instruments • length measuring instruments • area measuring instruments • multi-dimensional measuring instruments • vehicle tanks • milk tanks • point of sale systems • control systems • any other instrument prescribed by the NMI

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Test equipment includes:	• reference standards of measurement • certified reference materials, such as grain for testing protein measuring instruments • equipment, such as weighing instruments, strikes, funnels, water meters, beakers, roman levels, trammels and pocket length comparators
Certificates of Approval include:	• any Certificate issued by the Chief Metrologist under Regulation 60 of the *National Measurement Regulations 1999* approving the pattern of a simple measuring instrument as being suitable for trade
Prescribed performance criteria for simple measuring instruments include:	• that the instrument is of an approved pattern • that the instrument operates within the appropriate limits of error permitted by legislation • that the instrument is used in accordance with any legislative requirements
Verification	Has the same meaning as Section 18GG of the *National Measurement Act 1960*
Verification marks	Verification marks for different instruments are defined in Regulations 2.28 and 2.29 of the *National Trade Measurement Regulations 2009*
Trading practices include one or more of:	• methods used for the sale of goods • using measuring instruments • position of measuring instruments • environmental factors • suitability of instrument • incorrect measurement
Legislation includes:	• national measurement legislation • applicable Commonwealth, state and territory work/occupational health and safety (WHS/OHS) legislation

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NMI guidance includes:	• NMI sanctioned variances to National Instrument Test Procedures for verification • updates • directives
WHS/OHS and environmental management requirements include:	• complying with WHS/OHS and environmental management requirements at all times, which may be imposed through state/territory or federal legislation. These requirements must not be compromised at any time • applying standard precautions relating to the potentially hazardous nature of material/product measured • applying any necessary hygiene controls

Unit Mapping Information

Release 2. Corrections and adjustments to Application, Performance Criteria and Range of Conditions. Adjustment to Performance Evidence, and Assessment Conditions. Equivalent.

Release 1. Supersedes and is equivalent to MSATMVER302A Verify a simple measuring instrument

Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=d1287d36-dff4-4e9f-ad2c-9d6270054027

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Assessment Requirements for MSMTMVER302 Verify simple measuring instruments

Modification History

Release 2. Corrections and adjustments to Application, Performance Criteria and Range of Conditions. Adjustment to Performance Evidence, and Assessment Conditions. Equivalent.

Release 1. Supersedes and is equivalent to MSATMVER302A Verify a simple measuring instrument

Performance Evidence

Evidence of competence in this unit must satisfy all of the requirements of the elements and performance criteria, and include demonstration of:

- testing and marking at least three (3) instruments from one (1) or more of the following classes of simple measuring instruments:
  - beverage measuring instruments
  - protein quality measuring instruments
  - grain density measuring instrument
  - sugar quality measuring instruments
  - length measuring instruments
  - area measuring instruments
  - multi-dimensional measuring instruments
  - vehicle tanks
  - milk tanks
  - point of sale systems
  - control systems
  - any other simple measuring instrument prescribed by the NMI
- accessing and correctly interpreting documentation required for verification of simple measuring instruments
- planning, scheduling, preparing for and safely conducting a verification to optimise use of resources and minimise disruption to the public and trader
- ensuring test equipment, reference standards or reference materials are fit for purpose in accordance with applicable legislation and organisational procedures
- checking compliance and evaluating the performance of simple measuring instruments using appropriate Certificates of Approval, National Measurement Institute (NMI) policy and National Instrument Test Procedures, and adjusting for any impact of the operating environment and operational factors
- reliably determining if simple measuring instruments are suitable for trade use in accordance with legislative requirements
- displaying the verification result on the instrument and completing all verification documentation in accordance with legislative requirements and organisational procedures

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- identifying and communicating any inadequacies in servicing licensee's organisational procedures and practices that may contribute to non-compliance with legislative requirements
- maintaining the accuracy, completeness and currency of statutory records required of servicing licensees, such as authorisation, training and relevant licences
- identifying and communicating any inadequacies in trader's use of simple measuring instruments which may contribute to non-compliance with national measurement legislation
- demonstrating professionalism and respecting the rights of the trader at all times
- using routine communication and negotiation skills to:
  - explain the verification purpose, procedures and outcomes to traders, verifiers and managers
  - inform traders of non-compliances and consequences of failing to rectify them
- using numeric skills to:
  - perform calculations involving fractions, decimals, ratios, proportions and percentages
  - use correct units and the correct number of significant figures
  - analyse performance results over a single or limited range of operating conditions
- maintaining the security and confidentiality of data in accordance with organisational and regulatory requirements
- reporting results in the required formats and expected timeframe
- working safely.

Knowledge Evidence

Must provide evidence that demonstrates knowledge of:

- general science principles and concepts, such as weight, mass, gravity, density, heat, temperature effects and coefficients of expansion
- metrological terms and terminology specific to simple measuring instruments, such as maximum permissible errors and traceability
- details of the design and applications for one (1) class of simple measuring instruments, the components and their function
- servicing licensee requirements, including:
  - quality management system
  - licence conditions
  - maintenance of statutory records
- national measurement legislation requirements for simple measuring instruments
- safe work method statements (SWMS) for trading environments relevant to job role
- NMI policy, National Instrument Test Procedures and operating procedures for equipment, and reference standards used in job role, including:
  - purpose of test, test conditions and possible environmental impacts on performance of the simple measure
  - key preparation/measurement steps in the test method
  - calculation steps to give results in appropriate units and precision

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- maximum permissible errors for simple measuring instruments being verified
- organisational policy and procedures for verifying simple measuring instruments, including completion of test results, verification documents and statutory records
- organisational safety procedures and requirements of applicable Commonwealth, state and territory work/occupational health and safety (WHS/OHS) legislation.

Assessment Conditions

- Judgement of competence must be based on holistic assessment of the evidence. Assessment methods must confirm consistency of performance over time, rather than a single assessment event.
- This unit of competency is to be assessed in the workplace, or a simulated workplace environment. A simulated workplace environment must reflect realistic operational workplace conditions that cover all aspects of workplace performance, including the environment, task skills, task management skills, contingency management skills and job role environment skills.
- Foundation skills are integral to competent performance of the unit and should not be assessed separately.
- 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.
- Knowledge evidence may be collected concurrently with performance evidence or through an independent process, such as workbooks, written assessments or interviews (provided a record is kept in each case).
- This unit of competency may be assessed with:
  - *MSMTMREF301 Use and maintain reference standards*
- Holistic assessment methods include:
  - review of test results, verification documentation and verifier statutory records completed by the candidate
  - feedback from supervisors and peers regarding the candidate's ability verify the performance of simple measuring instruments in accordance with legislative and organisational procedures
  - questions to assess understanding of relevant verification procedures, servicing licensee requirements, trader obligations and remedial actions
  - review of candidate’s responses to verification scenarios, such as potential/actual non-compliances of traders and verifiers, appropriate actions, common issues and problems
  - observation of the candidate verifying simple measuring instruments.
- Access is required to simple measuring instruments, equipment, materials, workplace documentation, procedures and specifications associated with this unit, including, but not limited to:
  - latest versions of appropriate documentation, such as Certificates of Verification and Approval, NMI policy, National Instrument Test Procedures for verifying simple measuring instruments and relevant legislation
  - equipment manuals, safety data sheets (SDS), safety procedures and safety equipment

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  - records, such as test reports, instrument history and test results
  - simple measuring instruments, test equipment and reference standards, vehicle tanks and milk tanks
  - computer and relevant software and/or organisation information management system.
- Assessors must satisfy the assessor competency requirements that are in place at the time of the assessment as set by the VET regulator.
- The assessor must demonstrate both technical competency and currency.
- Technical competence can be demonstrated through:
  - relevant VET or other qualification/Statement of Attainment AND/OR
  - relevant workplace experience in trade measurement at least to the level being assessed and broad industry knowledge (such as a relevant industry qualification).
- Currency can be demonstrated through:
  - performing the competency being assessed as part of current employment in trade measurement OR
  - having consulted with trade measurement inspectors and/or verifiers performing the competency being assessed within the last twelve months.

Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=d1287d36-dff4-4e9f-ad2c-9d6270054027

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MSMTMVER401 Verify weighing instruments

Modification History

Release 2. Adjustments to the Application and Range of Conditions. Adjustment to Assessment Conditions. Equivalent.

Release 1. Supersedes and is equivalent to MSATMVER401A Verify a limited weighing instrument

Application

This unit of competency covers the ability to apply National Instrument Test Procedures to determine whether non-automatic weighing instruments or catchweighers of a particular class are suitable for trade use and to mark it accordingly.

This unit of competency is applicable to verifiers operating under a servicing licence to test and mark a specific class of weighing instruments. Weighing instruments are used in a very wide range of commerce. For example, weighing instruments are used to measure a wide range of products at the point of sale, as an order or as a pre-packaged article. There is a large range of environments where these instruments are used, including pharmaceutical laboratories, supermarkets, fresh food retailers, packing houses, the chemical/petroleum industry, construction, mining and other extractive industry sectors.

Depending on the site, verifiers may be required to meet additional local safety requirements, such as basic first aid, confined space entry, working with heavy machinery, working at heights and completing site safety induction. Verifiers may take up to one day perform to verifications in routine environments.

Under the requirements of Regulation 2.43 of the *National Trade Measurement Regulations 2009*, a servicing licensee or an employee must not verify a measuring instrument relevant to this unit unless they hold a statement of attainment for this unit of competency.

Pre-requisite Unit

Nil

Competency Field

Trade measurement

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Unit Sector

Elements and Performance Criteria

Elements describe the essential outcomes		Performance criteria describe the performance needed to demonstrate achievement of the element	
1	Prepare for verification	1.1	Identify and evaluate the type of instrument to be verified
		1.2	Access and correctly interpret documentation required for the verification
		1.3	Identify and access test equipment, products and consumables required for the verification
		1.4	Liaise with the trader to provide the items required on site
		1.5	Ensure specified test equipment is fit for purpose in accordance with applicable legislation and organisational procedures
		1.6	Store and transport test equipment in accordance with organisational procedures and industry best practice
		1.7	Identify relevant local workplace health and safety issues and implement appropriate control strategies
2	Evaluate weighing instrument performance	2.1	Evaluate whether the operating environment will impact on the instrument performance
		2.2	Modify the operating environment or implement alternative arrangements to ensure reliable test conditions as necessary
		2.3	Identify the maximum permissible errors for the instrument from the legislative requirements
		2.4	Use test equipment safely in accordance with applicable legislation and organisational procedures
		2.5	Check instrument for compliance with the appropriate Certificates of Approval

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		2.6	Inspect the instrument in accordance with relevant National Instrument Test Procedures and appropriate National Measurement Institute (NMI) guidance
		2.7	Evaluate results against prescribed performance criteria and determine if the instrument is suitable for trade use in accordance with legislative requirements
3	Report verification results	3.1	Display the verification result on the instrument in accordance with legislative requirements
		3.2	Use test reports to present verification results in the required format
		3.3	Complete verification documentation in accordance with legislative requirements and organisational procedures
		3.4	Communicate results within the specified time and in accordance with organisational guidelines
4	Model and encourage compliance with statutory requirements	4.1	Apply organisation's quality procedures and practices to meet servicing licensee's legislative obligations
		4.2	Clarify any issues about verifier obligations with their servicing licensee and/or licensing administering authority as they arise
		4.3	Review work and seek feedback from others to confirm continuing compliance with legislative requirements
		4.4	Identify implications of non-compliance with legislative requirements
		4.5	Identify inadequacies in trader's use of instruments which may contribute to non-compliance with national measurement legislation
		4.6	Explain inadequacies and possible remedial actions to trader
		4.7	Respect the rights of the trader at all times
5	Maintain statutory	5.1	Keep accurate and complete records in accordance with

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records		servicing licensee's legislative requirements
	5.2	Ensure authorisation, training and relevant licences are current in accordance with organisational and servicing licensee's legislative requirements
	5.3	Inform the licensing administering authority of changes to personal information as required by statute

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.

National Instrument Test Procedures include one or more of:	• measuring instrument test procedures • any other test procedure prescribed by the NMI
Classes of weighing instruments include one or more of:	• non-automatic weighing instruments tested without substitution loads • automatic Class Y(a) Catchweighers • automatic Class Y(b) Catchweighers • other weighing instrument prescribed by the NMI
Test equipment includes:	• reference standards of measurement
Certificates of Approval include:	• any Certificate issued by the Chief Metrologist under Regulation 60 of the *National Measurement Regulations 1999* approving the pattern of a weighing instrument as being suitable for trade use

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Prescribed performance criteria for weighing instruments include:	• that the instrument is of an approved pattern • that the instrument operates within the appropriate limits of error permitted by legislation • that the instrument is used in accordance with any legislative requirements
Verification	Has the same meaning as Section 18GG of the *National Measurement Act 1960*
Verification marks	Verification marks for different instruments are defined in Regulations 2.28 and 2.29 of the *National Trade Measurement Regulations 2009*
Trading practices include one or more of:	• methods used for the sale of goods • using measuring instruments • position of measuring instruments • environmental factors • suitability of instrument • incorrect measurement
Legislation includes:	• national measurement legislation • applicable Commonwealth, state and territory work/occupational health and safety (WHS/OHS) legislation
NMI guidance includes:	• NMI sanctioned variances to National Instrument Test Procedures for verification • updates • directives
WHS/OHS and environmental management requirements include:	• complying with WHS/OHS and environmental management requirements at all times, which may be imposed through state/territory or federal legislation. These requirements must not be compromised at any time • applying standard precautions relating to the potentially hazardous nature of material/product measured • applying any necessary hygiene controls

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Unit Mapping Information

Release 2. Adjustments to the Application and Range of Conditions. Adjustment to Assessment Conditions. Equivalent.

Release 1. Supersedes and is equivalent to MSATMVER401A Verify a limited weighing instrument

Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=d1287d36-dff4-4e9f-ad2c-9d6270054027

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Assessment Requirements for MSMTMVER401 Verify weighing instruments

Modification History

Release 2. Adjustments to the Application and Range of Conditions. Adjustment to Assessment Conditions. Equivalent.

Release 1. Supersedes and is equivalent to MSATMVER401A Verify a limited weighing instrument

Performance Evidence

Evidence of competence in this unit must satisfy all of the requirements of the elements and performance criteria, and include demonstration of:

- testing and marking at least three (3) instruments from one (1) or more of the following classes of weighing instruments:
  - non-automatic weighing instruments ≥3 tonne
  - automatic Class Y(a) Catchweighers
  - automatic Class Y(b) Catchweighers
- accessing and correctly interpreting documentation required for verification of weighing instruments
- planning, scheduling, preparing for and safely conducting a verification to optimise use of resources and minimise disruption to the public and trader
- ensuring test equipment and reference standards are fit for purpose in accordance with applicable legislation and organisational procedures
- checking compliance and evaluating the performance of weighing instruments using appropriate Certificates of Approval, National Measurement Institute (NMI) policy and National Instrument Test Procedures, and adjusting for any impact of the operating environment and operational factors
- reliably determining if weighing instruments are suitable for trade use in accordance with legislative requirements
- displaying the verification result on the instrument and completing all verification documentation in accordance with legislative requirements and organisational procedures
- identifying and communicating any inadequacies in servicing licensee's organisational procedures and practices that may contribute to non-compliance with legislative requirements
- maintaining the accuracy, completeness and currency of statutory records required of servicing licensees, such as authorisation, training and relevant licences
- identifying and communicating any inadequacies in trader's use of weighing instruments which may contribute to non-compliance with national measurement legislation
- demonstrating professionalism and respecting the rights of the trader at all times
- using communication and negotiation skills to:

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    - explain the verification purpose, procedures and outcomes to traders, verifiers and managers
    - inform traders of non-compliances and consequences of failing to rectify them
    - access external equipment and resources to complete the verification
- using numeric skills to perform calculations involving:
    - fractions, decimals, ratios, proportions and percentages
    - scientific notation, correct units and the correct number of significant figures
    - interpretation of statistical quantities, such as mean, median, mode, range, variance and standard deviation
- maintaining the security and confidentiality of data in accordance with organisational and regulatory requirements
- reporting results in the required formats and expected timeframe
- working safely.

Knowledge Evidence

Must provide evidence that demonstrates knowledge of:

- general science principles and concepts, including weight, mass and gravity
- metrological terms and terminology specific to weighing instruments, including maximum permissible errors, traceability, uncertainty, maximum permissible difference, eccentricity, repeatability, error of measurement, error of indication and linearisation
- details of the design and applications for one (1) class of weighing instruments, the components and their function
- servicing licensee requirements, including:
    - quality management system
    - licence conditions
    - maintenance of statutory records
- national measurement legislation applicable to weighing instruments
- safe work method statements (SWMS) for trading environments relevant to job role
- NMI policy, National Instrument Test Procedures and operating procedures for equipment, and reference standards used in job role, including:
    - purpose of test, test conditions and possible environmental impacts on performance of the instrument
    - key preparation/measurement steps in test method
    - calculation steps to give results in appropriate units and precision
    - maximum permissible errors for weighing instruments under test
    - organisational policy and procedures for verifying weighing instruments, including completion of test results, verification documents and statutory records
    - organisational safety procedures and requirements of applicable Commonwealth, state and territory work/occupational health and safety (WHS/OHS) legislation
- basic first aid and site safety induction, if required.

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Assessment Conditions

- Judgement of competence must be based on holistic assessment of the evidence. Assessment methods must confirm consistency of performance over time, rather than a single assessment event.
- This unit of competency is to be assessed in the workplace, or a simulated workplace environment. A simulated workplace environment must reflect realistic operational workplace conditions that cover all aspects of workplace performance, including the environment, task skills, task management skills, contingency management skills and job role environment skills.
- Foundation skills are integral to competent performance of the unit and should not be assessed separately.
- 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.
- Knowledge evidence may be collected concurrently with performance evidence or through an independent process, such as workbooks, written assessments or interviews (provided a record is kept in each case).
- This unit of competency may be assessed with:
  - *MSMTMREF301 Use and maintain reference standards*
- Holistic assessment methods include:
  - review of test results, verification documentation and verifier statutory records completed by the candidate
  - feedback from supervisors and peers regarding the candidate's ability to verify the performance of weighing instruments in accordance with legislative and organisational procedures
  - questions to assess understanding of relevant verification procedures, servicing licensee requirements, trader obligations and remedial actions
  - review of candidate’s responses to verification scenarios, such as potential/actual non-compliances of traders and verifiers, appropriate actions, common issues and problems
  - observation of the candidate verifying weighing instruments.
- Access is required to weighing instruments, equipment, materials, workplace documentation, procedures and specifications associated with this unit, including, but not limited to:
  - latest versions of appropriate documentation, such as Certificates of Verification and Approval, NMI policy, National Instrument Test Procedures for verifying weighing instruments and relevant legislation
  - equipment manuals, safety data sheets (SDS), safety procedures and safety equipment
  - records, such as test reports, audit reports, instrument history and test results
  - weighing instruments, test equipment and reference standards
  - computer and relevant software and/or organisation information management system.
- Assessors must satisfy the assessor competency requirements that are in place at the time of the assessment as set by the VET regulator.
- The assessor must demonstrate both technical competency and currency.
- Technical competence can be demonstrated through:

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  - relevant VET or other qualification/Statement of Attainment AND/OR
  - relevant workplace experience in trade measurement at least to the level being assessed and broad industry knowledge (such as a relevant industry qualification).
- Currency can be demonstrated through:
  - performing the competency being assessed as part of current employment in trade measurement OR
  - having consulted with trade measurement inspectors and/or verifiers performing the competency being assessed within the last twelve months.

Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=d1287d36-dff4-4e9f-ad2c-9d6270054027

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MSMTMVER402 Verify liquid measuring instruments using volume measures

Modification History

Release 2. Adjustments to the Application and Range of Conditions. Adjustment to the Assessment Conditions. Equivalent.

Release 1. Supersedes and is equivalent to MSATMVER402A Verify liquid measuring instruments using volume measures

Application

This unit of competency covers the ability to apply National Instrument Test Procedures to determine whether liquid measuring instruments of a particular class, tested using volume measures, are suitable for trade use and to mark them accordingly.

This unit of competency is applicable to verifiers operating under a servicing licence to test and mark a specific class of liquid measuring instruments tested using a volume measure only. Liquid measuring instruments are used in a very wide range of commerce. For example, petrol dispensers measure fuel at the point of sale and flowmeters are used to measure bulk commodities, such as milk, chemicals and petroleum products during production and distribution. The verification tests are performed over extended durations in non-routine and hazardous environments.

Depending on the site, verifiers may be required to meet additional local safety requirements such as basic first aid, confined space entry, working with hazardous materials, working at heights, working with heavy machinery, use of appropriate workplace clearance forms and completing site safety induction.

Under the requirements of Regulation 2.43 of the *National Trade Measurement Regulations 2009*, a servicing licensee or an employee must not verify a measuring instrument relevant to this unit unless they hold a statement of attainment for this unit of competency.

Pre-requisite Unit

Nil

Competency Field

Trade measurement

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Unit Sector

Elements and Performance Criteria

Elements describe the essential outcomes		Performance criteria describe the performance needed to demonstrate achievement of the element	
1	Prepare for verification	1.1	Identify and evaluate the type of instrument to be verified
		1.2	Access and correctly interpret documentation required for the verification
		1.3	Identify and access test equipment, products and consumables required for the verification
		1.4	Liaise with the trader to provide the items required on site
		1.5	Ensure specified test equipment is fit for purpose in accordance with applicable legislation and organisational procedures
		1.6	Store and transport test equipment in accordance with organisational procedures and industry best practice
		1.7	Identify relevant local workplace health and safety issues and implement appropriate control strategies
2	Evaluate liquid measuring instrument performance	2.1	Evaluate whether the operating environment will impact on the instrument performance
		2.2	Modify the operating environment or implement alternative arrangements to ensure reliable test conditions as necessary
		2.3	Identify the maximum permissible errors for the instrument from the legislative requirements
		2.4	Use test equipment safely in accordance with applicable legislation and organisational procedures
		2.5	Check instrument for compliance with the appropriate Certificates of Approval

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		2.6	Inspect the instrument in accordance with relevant National Instrument Test Procedures and appropriate National Measurement Institute (NMI) guidance
		2.7	Evaluate results against prescribed performance criteria and determine if the instrument is suitable for trade use in accordance with legislative requirements
3	Report verification results	3.1	Display the verification result on the instrument in accordance with legislative requirements
		3.2	Use test reports to present verification results in the required format
		3.3	Complete verification documentation in accordance with legislative requirements and organisational procedures
		3.4	Communicate results within the specified time and in accordance with organisational guidelines
4	Model and encourage compliance with statutory requirements	4.1	Apply organisation's quality procedures and practices to meet servicing licensee's legislative obligations
		4.2	Clarify any issues about verifier obligations with their servicing licensee and/or licensing administering authority as they arise
		4.3	Review work and seek feedback from others to confirm continuing compliance with legislative requirements
		4.4	Identify implications of non-compliance with legislative requirements
		4.5	Identify inadequacies in trader's use of instruments which may contribute to non-compliance with national measurement legislation
		4.6	Explain inadequacies and possible remedial actions to trader
		4.7	Respect the rights of the trader at all times
5	Maintain statutory	5.1	Keep accurate and complete records in accordance with

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records		servicing licensee's legislative requirements
	5.2	Ensure authorisation, training and relevant licences are current in accordance with organisational and servicing licensee's legislative requirements
	5.3	Inform the licensing administering authority of changes to personal information as required by statute

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.

National Instrument Test Procedures include one or more of:	• measuring instrument test procedures • any other test procedure prescribed by the NMI
Classes of liquid measuring instruments using volume measures include one or more of:	• fuel dispensers other than LPG dispensers • milk flowmeters tested using a volume measure • any other liquid measuring instrument prescribed by the NMI
Test equipment includes:	• reference standards of measurement • equipment, such as a small measure, dummy nozzle, safety equipment and hand tools
Certificates of Approval include:	• any Certificate issued by the Chief Metrologist under Regulation 60 of the *National Measurement Regulations 1999* approving the pattern of a liquid measuring instrument using volume measures as being suitable for trade use

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Prescribed performance criteria for liquid measuring instruments include:	• that the instrument is of an approved pattern • that the instrument operates within the appropriate limits of error permitted by legislation • that the instrument is used in accordance with any legislative requirements
Verification	Has the same meaning as Section 18GG of the *National Measurement Act 1960*
Verification marks	Verification marks for different instruments are defined in Regulations 2.28 and 2.29 of the *National Trade Measurement Regulations 2009*
Trading practices include one or more of:	• methods used for the sale of goods • using measuring instruments • position of measuring instruments • environmental factors • suitability of instrument • incorrect measurement
Legislation includes:	• national measurement legislation • applicable Commonwealth, state and territory work/occupational health and safety (WHS/OHS) legislation
NMI guidance includes:	• NMI sanctioned variances to National Instrument Test Procedures for verification • updates • directives
WHS/OHS and environmental management requirements include:	• complying with WHS/OHS and environmental management requirements at all times, which may be imposed through state/territory or federal legislation. These requirements must not be compromised at any time • applying standard precautions relating to the potentially hazardous nature of material/product measured • applying any necessary hygiene controls

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Unit Mapping Information

Release 2. Adjustments to the Application and Range of Conditions. Adjustment to the Assessment Conditions. Equivalent.

Release 1. Supersedes and is equivalent to MSATMVER402A Verify liquid measuring instruments using volume measures

Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=d1287d36-dff4-4e9f-ad2c-9d6270054027

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Assessment Requirements for MSMTMVER402 Verify liquid measuring instruments using volume measures

Modification History

Release 2. Adjustments to the Application and Range of Conditions. Adjustment to the Assessment Conditions. Equivalent.

Release 1. Supersedes and is equivalent to MSATMVER402A Verify liquid measuring instruments using volume measures

Performance Evidence

Evidence of competence in this unit must satisfy all of the requirements of the elements and performance criteria, and include demonstration of:

- testing and marking at least three (3) instruments from one (1) or more of the following classes of liquid measuring instruments using volume measures:
  - fuel dispensers other than liquid petroleum gas (LPG) dispensers
  - milk flowmeters
  - flowmeters used for non petroleum products
- accessing and correctly interpreting documentation required for verification of liquid measuring instruments
- planning, scheduling, preparing for and safely conducting a verification to optimise use of resources and minimise disruption to the public and trader
- ensuring test equipment and reference standards are fit for purpose in accordance with applicable legislation and organisational procedures
- checking compliance and evaluating the performance of liquid measuring instruments using volume measures using appropriate Certificates of Approval, National Measurement Institute (NMI) policy and National Instrument Test Procedures, and adjusting for any impact of the operating environment and operational factors
- reliably determining if liquid measuring instruments are suitable for trade use in accordance with legislative requirements
- displaying the verification result on the instrument and completing all verification documentation in accordance with legislative requirements and organisational procedures
- identifying and communicating any inadequacies in servicing licensee's organisational procedures and practices that may contribute to non-compliance with legislative requirements
- maintaining the accuracy, completeness and currency of statutory records required of servicing licensees such as authorisation, training and relevant licences
- identifying and communicating any inadequacies in trader's use of liquid measuring instruments which may contribute to non-compliance with national measurement legislation
- demonstrating professionalism and respecting the rights of the trader at all times
- using communication and negotiation skills to:

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  - explain the verification purpose, procedures and outcomes to traders, verifiers and managers
  - inform traders of non-compliances and consequences of failing to rectify them
  - access external equipment and resources to complete the verification
- using numeric skills to perform calculations involving:
  - fractions, decimals, ratios, proportions and percentages
  - scientific notation, correct units and the correct number of significant figures, calculation of uncertainties
  - evaluation of formulae containing powers, exponents and logarithms functions
  - preparation and interpretation of linear graphs
- maintaining the security and confidentiality of data in accordance with organisational and regulatory requirements
- reporting results in the required formats and expected timeframe
- working safely.

Knowledge Evidence

Must provide evidence that demonstrates knowledge of:

- general science principles and concepts, including:
  - physical states (solid, liquid and gas), weight, mass, gravity and density
  - pressure, pressure differential, backpressure and head pressure, fluid flow and viscosity
  - temperature effects and coefficients of expansion, flashpoint, boiling point and ice point
- metrological terms and terminology specific to liquid measuring instruments, including maximum permissible errors, maximum permissible difference and maximum permissible variation, traceability, repeatability, uncertainty, error of measurement and error of indication, meter creep, hose dilation, temperature correction, linearization and gas elimination
- basic details of the design, application and function of components used in one class of liquid measuring instruments
- servicing licensee requirements, including:
  - quality management system
  - licence conditions
  - maintenance of statutory records
- national measurement legislation applicable to liquid measuring instruments
- safe work method statements (SWMS) for trading environments relevant to job role
- NMI policy, National Instrument Test Procedures and operating procedures for equipment, and reference standards used in job role, including:
  - test conditions and possible environmental impacts on performance of the instrument
  - key preparation/measurement steps in test method
  - calculation steps to give results in appropriate units and precision

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- maximum permissible errors for liquid measuring instruments under test
- safety principles and procedures relevant to liquid measuring instruments
- organisational policy and procedures for verifying liquid measuring instruments, including completion of test results, verification documents and statutory records
- organisational safety procedures and requirements of applicable Commonwealth, state and territory work/occupational health and safety (WHS/OHS) legislation

- basic first aid and site safety induction, if required.

Assessment Conditions

- Judgement of competence must be based on holistic assessment of the evidence. Assessment methods must confirm consistency of performance over time, rather than a single assessment event.
- This unit of competency should be assessed in the workplace, or a simulated workplace environment. A simulated workplace environment must reflect realistic operational workplace conditions that cover all aspects of workplace performance, including the environment, task skills, task management skills, contingency management skills and job role environment skills.
- Foundation skills are integral to competent performance of the unit and should not be assessed separately.
- 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.
- Knowledge evidence may be collected concurrently with performance evidence or through an independent process, such as workbooks, written assessments or interviews (provided a record is kept in each case).
- This unit of competency may be assessed with:
  - *MSMTMREF301 Use and maintain reference standards*
- Holistic assessment methods include:
  - review of test results, verification documentation and verifier statutory records completed by the candidate
  - feedback from supervisors and peers regarding the candidate's ability to verify the performance of liquid measuring instruments using volume measures in accordance with legislative and organisational procedures
  - questions to assess understanding of relevant verification procedures, servicing licensee requirements, trader obligations and remedial actions
  - review of candidate’s responses to verification scenarios, such as potential/actual non-compliances of traders and verifiers, appropriate actions, common issues and problems
  - observation of the candidate verifying liquid measuring instruments using volume measures.
- Access is required to liquid measuring instruments, equipment, materials, workplace documentation, procedures and specifications associated with this unit, including, but not limited to:

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  - latest versions of appropriate documentation, such as Certificates of Verification and Approval, NMI policy, National Instrument Test Procedures for verifying liquid measuring instruments and relevant legislation
  - workplace clearance forms, and correction tables for volume, density and pressure for a range of liquids
  - equipment manuals, safety data sheets (SDS), safety procedures and safety equipment
  - records, such as test reports, audit reports, instrument history and test results
  - liquid measuring instruments using volume measures; test equipment, such as pumps, funnels and hoses; and reference standards
  - computer and relevant software and/or organisation information management system.
- Assessors must satisfy the assessor competency requirements that are in place at the time of the assessment as set by the VET regulator.
- The assessor must demonstrate both technical competency and currency.
- Technical competence can be demonstrated through:
  - relevant VET or other qualification/Statement of Attainment AND/OR
  - relevant workplace experience in trade measurement at least to the level being assessed and broad industry knowledge (such as a relevant industry qualification)
- Currency can be demonstrated through:
  - performing the competency being assessed as part of current employment in trade measurement OR
  - having consulted with trade measurement inspectors and/or verifiers performing the competency being assessed within the last twelve months.

Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=d1287d36-dff4-4e9f-ad2c-9d6270054027

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MSMTMVER403 Verify Inspectors' Class reference standards

Modification History

Release 2. Minor adjustments/corrections to all sections, inc. performance and knowledge evidence. Equivalent.

Release 1. Supersedes and is equivalent to MSATMVER403A Verify inspector's class reference standards

Application

This unit of competency covers the ability to calibrate reference standards to the Inspectors' Class level using standard calibration procedures. These procedures specify all associated reference standards, equipment and methods to be used and the required parameters, quantities and ranges to be tested, including the criteria for validation or rejection. Standard calibration procedures are sometimes complex and lengthy and must be performed in a methodical and standard manner. Personnel are not permitted to deviate from explicit instructions in any manner, nor modify the procedure, nor substitute alternative equipment.

This unit of competency is applicable to laboratory and calibration technicians who carry out testing and/or calibrations using standard calibration methods in National Association of Testing Authorities (NATA) accredited laboratories. They work under limited supervision and their results are interpreted and checked by the laboratory supervisor, quality officer or designated signatory

While no specific licensing or certification requirements apply to this unit at the time of publication, all inspection activity is legislated under the *National Measurement Act 1960.*

Pre-requisite Unit

Nil

Competency Field

Trade measurement

Unit Sector

Elements and Performance Criteria

Elements describe the Performance criteria describe the performance needed to

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essential outcomes		demonstrate achievement of the element	
1	Receive and schedule Inspectors’ Class reference standards for calibration	1.1	Identify the level of verification required by the client
		1.2	Evaluate and implement appropriate strategies where the standard's suitability for purpose does not meet client expectations
		1.3	Enter details for the Inspectors’ Class reference standard into the organisation's information management system and apply appropriate tracking mechanisms
		1.4	Process 'urgent' calibration requests in accordance with organisational policy and procedures
		1.5	Maintain confidentiality of all client and organisation data and information
		1.6	Ensure that information provided to clients is accurate, relevant and authorised for release
		1.7	Deal with customers politely, efficiently and in accordance with organisational policy and procedures
2	Prepare for calibration	2.1	Identify and access the appropriate procedure for the calibration in accordance with organisational policy and procedures
		2.2	Identify possible sources of measurement error during calibration and implement appropriate control strategies
		2.3	Condition Inspectors’ Class reference standards and high order reference standards in accordance with calibration and organisational procedures, where applicable
		2.4	Identify hazards and use the specified personal protective equipment, safety equipment and procedures
		2.5	Evaluate the suitability of high order reference standards and measuring equipment selected for the calibration against the organisation's specification requirements and calibration procedure
		2.6	Document calibration status, report out-of-calibration test equipment/high order reference standards and quarantine where required

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3	Perform calibration	3.1	Assess the design and appearance of an Inspectors' Class reference standard against prescribed standards
		3.2	Perform calibration without variance according to the documented procedure to ensure repeatability of measurement
		3.3	Confirm readings are the result of a valid measurement and record data as required
		3.4	Adjust Inspectors' Class reference standard, if applicable
4	Analyse and report calibration results	4.1	Estimate and document uncertainty of measurement in accordance with organisational policy and procedures, if required
		4.2	Identify prescribed performance criteria for the Inspectors' Class reference standard and evaluate against calibration results
		4.3	Analyse calibration results to confirm they are within the maximum permissible variation and uncertainty for the scope of calibration
		4.4	Analyse any variances from the performance criteria to identify isolated or systemic problems with the Inspectors' Class reference standards or calibration procedure
		4.5	Record the results of each test/calibration accurately, unambiguously and objectively
5	Finalise calibration	5.1	Attach calibration labels, equipment stickers, quality control tags and tamper resistant seals as required by organisational procedures
		5.2	Prepare and submit to the laboratory supervisor a final report on the calibration detailing procedure, traceability, results and all other required information
		5.3	Store test equipment/high order reference standards and calibration records in accordance with organisational policy and procedures

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5.4 Identify and report unserviceable equipment or high order reference standards to the laboratory supervisor

5.5 Clean equipment and high order reference standards in accordance with organisational policy and 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.

Inspectors' Class reference standards include one or more of:

- Inspectors' Classes of reference standards defined in the *National Measurement Regulations 1999*:
  - mass – Inspectors' Class 1, 2 and 3
  - length – Inspector's Class 1
  - volume – Inspector's Class 1

Standard calibrations include one or more of:

- testing and/or calibrating reference standards using standard methods and procedures

Legislation and standards include:

- national measurement legislation
- relevant national/international standards including ISO/IEC 17025
- applicable Commonwealth, state and territory work/occupational health and safety (WHS/OHS) legislation

Policy and procedures include:

- NMI policies and procedures
- NMI monographs
- Verifying authority internal policies and procedures

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WHS/OHS and environmental management requirements include:	• complying with WHS/OHS and environmental management requirements at all times, which may be imposed through state/territory or federal legislation. These requirements must not be compromised at any time • applying standard precautions relating to the potentially hazardous nature of any materials used

Unit Mapping Information

Release 2. Minor adjustments/corrections to all sections, inc. performance and knowledge evidence. Equivalent.

Release 1. Supersedes and is equivalent to MSATMVER403A Verify inspector's class reference standards

Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=d1287d36-dff4-4e9f-ad2c-9d6270054027

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Assessment Requirements for MSMTMVER403 Verify Inspectors' Class reference standards

Modification History

Release 2. Minor adjustments/corrections to all sections, inc. performance and knowledge evidence. Equivalent.

Release 1. Supersedes and is equivalent to MSATMVER403A Verify inspector's class reference standards

Performance Evidence

Evidence of competence in this unit must satisfy all of the requirements of the elements and performance criteria, and include demonstration of:

- calibrating and verifying the following Inspectors' Class level reference standards using standard calibration procedures:
  - at least one (1) mass Inspectors' Class 1, 2 or 3 reference standard (single or double substitution)
  - at least one (1) Inspectors' Class 1 length reference standard (flexible or rigid)
  - at least one (1) Inspectors' Class 1 volume reference standard (gravimetric or volumetric)
- receiving and scheduling Inspectors' Class reference standards for calibration in accordance with organisation policy and procedures
- accessing and correctly interpreting documentation required for verifications and calibration of Inspectors' Class reference standards
- preparing for calibrations by considering possible hazards, sources of measurement error, control strategies, conditioning of standards and evaluating/documenting the suitability of high order reference standards and measuring equipment selected for use
- using the specified personal protective equipment, safety equipment and procedures to safely conduct calibrations
- assessing the design, suitability and appearance of Inspectors' Class reference standards
- performing calibrations, without variance, according to the standard methods, using prescribed high order reference standards, Certificates of Verification, National Measurement Institute (NMI) policy and procedures, NMI monographs, and organisational procedures
- if applicable, making adjustments to Inspectors' Class reference standards
- examining each calibration step critically to ensure repeatability and validity of data
- estimating uncertainties, comparing calibration results with prescribed performance criteria for the Inspectors' Class reference standard and confirming that results are within maximum permissible variation and uncertainty
- analysing any variances in results from the performance criteria to identify isolated or systemic problems with the Inspectors' Class reference standards or calibration procedure

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- attaching all required calibration labels, equipment stickers, quality control tags and tamper resistant seals on the standard
- completing all calibration documentation and reporting in accordance with legislative requirements and organisational procedures
- cleaning and storing test equipment/high order reference standards and documenting their status in accordance with organisational policy and procedures
- using communication skills to:
  - deal with customers politely and efficiently
  - communicate with the laboratory manager
- performing specified calculations involving:
  - fractions, decimals, ratios, proportions and percentages
  - scientific notation, correct units and the correct number of significant figures
  - interpretation of statistical quantities, such as mean, median, mode, range, variance and standard deviation
  - uncertainties
  - use of calibration and correction charts, determination of regression line equations and correlation coefficients
- maintaining the security and confidentiality of data in accordance with organisational and regulatory requirements
- reporting results in the required formats and expected timeframe
- working safely.

Knowledge Evidence

Must provide evidence that demonstrates knowledge of:

- purpose of metrology and calibration, including common terminology, concepts, principles, procedures and applications
- detailed knowledge of specific metrology terms and principles, including uncertainty, maximum permissible variations, traceability and legal requirements for traceability
- NATA's and the NMI’s role in Australia’s measurement and testing system, and measurement standards laboratories
- requirements for the competence of testing and calibration laboratories (for example, AS ISO/IEC 17025) as they affect job role and responsibilities
- national measurement legislation applicable to verification of Inspectors’ Class reference standards
- hierarchy and appropriate selection of reference standards
- NMI policy, procedures, monographs and operating procedures for equipment, and reference standards used in job role
- detailed knowledge of calibration procedures (equipment, measurement steps, test conditions, environmental impacts, calculations and uncertainty treatment) to give valid results with appropriate accuracy, precision and units
- non-conformance/non-compliance procedures and protocols associated with equipment, reference material and calibration procedures

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- troubleshooting procedures for equipment and test methods
- handling, transport, storage and documentation of reference and working standards
- laboratory environmental control requirements
- lines of communication and reporting procedures.

Assessment Conditions

- Judgement of competence must be based on holistic assessment of the evidence. Assessment methods must confirm consistency of performance over time, rather than a single assessment event.
- This unit of competency should be assessed in the workplace, or a simulated workplace environment. A simulated workplace environment must reflect realistic operational workplace conditions that cover all aspects of workplace performance, including the environment, task skills, task management skills, contingency management skills and job role environment skills.
- Foundation skills are integral to competent performance of the unit and should not be assessed separately.
- 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.
- Knowledge evidence may be collected concurrently with performance evidence or through an independent process, such as workbooks, written assessments or interviews (provided a record is kept in each case).
- This unit of competency may be assessed with:
  - *MSMTMREF301 Use and maintain reference standards*
- Holistic assessment methods include:
  - review of calibration results, calculations and verification reports prepared by the candidate
  - feedback from supervisors regarding the candidate's ability to verify Inspectors’ Class reference standards in accordance with legislative and organisational procedures
  - questions to assess understanding of relevant metrology/calibration terms, principles and procedures, common calibration issues and problems
  - observation of the candidate calibrating Inspectors’ Class reference standards.
- Access is required to high order and Inspectors’ Class reference standards, test equipment, materials, workplace documentation, procedures and specifications associated with this unit, including, but not limited to:
  - latest versions of appropriate documentation, such as high order reference standards, Certificates of Verification and Approval, NMI policy, test procedures for verifying Inspectors’ Class reference standards, validated/authorised methods for standard calibrations and relevant legislation
  - equipment manuals, safety data sheets (SDS), safety procedures and safety equipment
  - records, such as test reports, audit reports, reference standard history and test results
  - computer and relevant software and/or organisation information management system.
- Assessors must satisfy the assessor competency requirements that are in place at the time of the assessment as set by the VET regulator.

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- The assessor must demonstrate both technical competency and currency.
- Technical competence can be demonstrated through:
  - relevant VET or other qualification/Statement of Attainment AND/OR
  - relevant workplace experience in trade measurement at least to the level being assessed and broad industry knowledge (such as a relevant industry qualification).
- Currency can be demonstrated through:
  - performing the competency being assessed as part of current employment in trade measurement OR
  - having consulted with trade measurement inspectors and/or verifiers performing the competency being assessed within the last twelve months.

Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=d1287d36-dff4-4e9f-ad2c-9d6270054027

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MSMTMVER501 Verify complex measuring instruments

Modification History

Release 2. Adjustments to Application, Performance Criteria and Range of Conditions. Adjustment to Assessment Conditions. Equivalent.

Release 1. Supersedes and is equivalent to MSATMVER501A Verify a complex measuring instrument

Application

This unit of competency covers the ability to apply National Instrument Test Procedures to determine whether complex measuring instruments of a particular class are suitable for trade use and to mark them accordingly. It involves the ability to perform significant calculations to assess instrument performance and conduct tests that may require coordination of a range of resources over extended durations in hazardous environments.

This unit of competency is applicable to verifiers operating under a servicing licence to test and mark a specific class of complex measuring instruments. Complex measuring instruments are used in a wide range of heavy industries. For example, automatic rail weighbridges, belt weighers, totalising hopper weighers, bulk fuel and liquid petroleum gas (LPG) flowmeters are used throughout the mining, road/rail freight and petroleum/gas industry sectors.

Verifications may be performed over extended durations up to five days in non-routine and hazardous environments. Verifiers must work safely which may include applying basic first aid, confined space entry, working with hazardous materials, working safely in hazardous environments, working with heavy machinery, use of appropriate workplace clearance forms, safety induction, working at heights and biosecurity issues.

Under the requirements of Regulation 2.43 of the *National Trade Measurement Regulations 2009*, a servicing licensee or an employee must not verify a measuring instrument relevant to this unit unless they hold a statement of attainment for this unit of competency.

Pre-requisite Unit

Nil

Competency Field

Trade measurement

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Unit Sector

Elements and Performance Criteria

Elements describe the essential outcomes		Performance criteria describe the performance needed to demonstrate achievement of the element	
1	Prepare for verification	1.1	Identify and evaluate the type of instrument to be verified
		1.2	Access and correctly interpret documentation required for the verification
		1.3	Identify and access test equipment, products and consumables required for the verification
		1.4	Ensure specified test equipment is fit for purpose in accordance with applicable legislation and organisational procedures
		1.5	Store and transport test equipment in accordance with organisational procedures and industry best practice
		1.6	Develop a verification strategy to maximise resources and minimise time to complete the instrument verification
2	Liaise with the trader to schedule complex tests	2.1	Discuss testing arrangements with site controller where applicable
		2.2	Identify relevant local workplace, health and safety issues and implement appropriate control strategies
		2.3	Discuss the verification strategy with the trader to minimise its impact on the trader's normal operations
		2.4	Arrange site clearances and suitable scheduling for tests
		2.5	Negotiate access to trader's equipment, materials and support personnel required for testing to be available on site
		2.6	Arrange for any equipment to be provided by the trader, if required

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3	Initiate verification	3.1	Identify the site controller and explain/review the purpose of the verification
		3.2	Review verification strategy to ensure there is minimal disruption to the public and/or trader
		3.3	Communicate verification strategy to personnel supporting the verification
		3.4	Identify locations for product return or disposal, if applicable
		3.5	Evaluate the impacts of the operating environment on the instrument performance or test results and implement corrective actions as necessary
		3.6	Identify operational factors impacting on instrument performance or test result and implement corrective actions as necessary
4	Evaluate complex measuring instrument performance	4.1	Identify the maximum permissible errors for the instrument from the legislative requirements
		4.2	Manage and review resources to maintain verification timelines
		4.3	Provide effective communication to ensure relevant personnel are informed of variations to the verification strategy and verification progress
		4.4	Check instrument for compliance with the appropriate Certificates of Approval
		4.5	Test the instrument in accordance with relevant National Instrument Test Procedures and appropriate National Measurement Institute (NMI) guidance
5	Analyse verification results	5.1	Perform specified calculations to determine a performance result for the instrument with appropriate accuracy, precision and significant figures
		5.2	Use graphical and statistical analysis to determine unknowns as necessary

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		5.3	Ensure calculations are consistent with estimations and reasonable expectations
		5.4	Evaluate results against prescribed performance criteria and determine if the instrument is suitable for trade use in accordance with legislative requirements
6	Report verification results	6.1	Display the verification result on the instrument in accordance with legislative requirements
		6.2	Use test reports to present verification results in the required format
		6.3	Complete verification documentation in accordance with legislative requirements and organisational procedures
		6.4	Communicate results within the specified time and in accordance with organisational guidelines
7	Model and encourage compliance with statutory requirements	7.1	Apply organisation's quality procedures and practices to meet servicing licensee's legislative obligations
		7.2	Clarify any issues about verifier obligations with their servicing licensee and/or licensing administering authority as they arise
		7.3	Review work and seek feedback from others to confirm continuing compliance with legislative requirements
		7.4	Identify implications of non-compliance with legislative requirements
		7.5	Identify inadequacies in trader's use of instruments which may contribute to non-compliance with national measurement legislation
		7.6	Explain inadequacies and possible remedial actions to trader
		7.7	Respect the rights of the trader at all times
8	Maintain statutory records	8.1	Keep accurate and complete records in accordance with servicing licensee's legislative requirements

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8.2 Ensure authorisation, training and relevant licences are current in accordance with organisational and servicing licensee's legislative requirements

8.3 Inform the licensing administering authority of changes to personal information as required by statute

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.

National Instrument Test Procedures include one or more of:

- measuring instrument test procedures
- any other test procedure prescribed by the NMI

Classes of complex measuring instruments include one or more of:

- non-automatic weighing instruments >3 tonne
- LPG dispensers
- bulk LPG flowmetering systems
- bulk flowmetering systems for liquid hydrocarbons other than LPG
- bulk flowmetering systems for liquid products **other than** liquid hydrocarbons
- dispensers and flowmetering systems for gaseous products (excluding utility meters)
- automatic rail weighbridges
- continuous totalising automatic weighing instruments (belt weighers)
- discontinuous totalising hopper weighing instruments
- any other complex measuring instrument prescribed by the NMI

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Test equipment includes:	• reference standards of measurement • equipment, such as weighing instruments, substitution load, rail wagons, trains, control instruments, quantity of material normally weighed, two-way communication, pumping units, LPG cylinders, hydrometer pressure vessel, master meter, hoses, fittings and tankers
Certificates of Approval include:	• any Certificate issued by the Chief Metrologist under Regulation 60 of the *National Measurement Regulations 1999* approving the pattern of a complex weighing instrument as being suitable for trade use
Prescribed performance criteria for complex measuring instruments include:	• that the instrument is of an approved pattern • that the instrument operates within the appropriate limits of error permitted by legislation • that the instrument is used in accordance with any legislative requirements
Verification	Has the same meaning as Section 18GG of the *National Measurement Act 1960*
Verification marks	Verification marks for different instruments are defined in Regulations 2.28 and 2.29 of the *National Trade Measurement Regulations 2009*
Trading practices include one or more of:	• methods used for the sale of goods • using measuring instruments • position of measuring instruments • environmental factors • suitability of instrument • incorrect measurement
Legislation includes:	• national measurement legislation • applicable Commonwealth, state and territory work/occupational health and safety (WHS/OHS) legislation
NMI guidance includes:	• NMI sanctioned variances to National Instrument Test Procedures for verification • updates

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	• directives
WHS/OHS and environmental management requirements include:	• complying with WHS/OHS and environmental management requirements at all times, which may be imposed through state/territory or federal legislation. These requirements must not be compromised at any time • applying standard precautions relating to the potentially hazardous nature of material/product measured • applying any necessary hygiene controls

Unit Mapping Information

Release 2. Adjustments to Application, Performance Criteria and Range of Conditions. Adjustment to Assessment Conditions. Equivalent.

Release 1. Supersedes and is equivalent to MSATMVER501A Verify a complex measuring instrument

Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=d1287d36-dff4-4e9f-ad2c-9d6270054027

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Assessment Requirements for MSMTMVER501 Verify complex measuring instruments

Modification History

Release 2. Adjustments to Application, Performance Criteria and Range of Conditions. Adjustment to Assessment Conditions. Equivalent.

Release 1. Supersedes and is equivalent to MSATMVER501A Verify a complex measuring instrument

Performance Evidence

Evidence of competence in this unit must satisfy all of the requirements of the elements and performance criteria, and include demonstration of:

- testing and marking at least one (1) complex measuring instrument
- accessing and correctly interpreting documentation required for verification of a complex measuring instrument
- ensuring test equipment and reference standards are fit for purpose in accordance with applicable legislation and organisational procedures
- planning, scheduling, preparing for and safely conducting a verification to optimise use of resources and minimise disruption to the public and trader
- checking compliance and evaluating the performance of a complex measuring instrument using appropriate Certificates of Approval, National Measurement Institute (NMI) policy and National Instrument Test Procedures, and adjusting for any impact of the operating environment and operational factors
- using specified calculations, graphical and statistical analysis to determine the performance result for a complex measuring instrument
- reliably determining if a complex measuring instrument is suitable for trade use in accordance with legislative requirements
- displaying the verification result on the instrument and completing all verification documentation in accordance with legislative requirements and organisational procedures
- identifying and communicating any inadequacies in servicing licensee's organisational procedures and practices that may contribute to non-compliance with legislative requirements
- maintaining the accuracy, completeness and currency of statutory records required of servicing licensees, such as authorisation, training and relevant licences
- identifying and communicating any inadequacies in trader's use of complex instruments which may contribute to non-compliance with national measurement legislation
- demonstrating professionalism and respecting the rights of the trader at all times
- using advanced communication and negotiation skills to:
  - explain verification procedures and verification outcomes to traders and managers
  - arrange site clearances, gain cooperation of site controllers and schedule complex tests
  - access external equipment and resources to complete the inspection

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    - organise large equipment to be dispatched ahead of a verification visit, when necessary
- using numerical skills to perform specified calculations involving:
    - fractions, decimals, ratios, proportions and percentages
    - evaluation of formulae containing powers, exponents and logarithms functions
    - use of scientific notation, correct units and correct number of significant figures
    - determination of regression line equations and correlation coefficients
    - preparation and interpretation of complex control charts and frequency distribution plots
- maintaining the security and confidentiality of data in accordance with organisational and regulatory requirements
- reporting results in the required formats and expected timeframe
- working safely.

Knowledge Evidence

- Must provide evidence that demonstrates knowledge of:
- general science principles and concepts, including:
    - physical states (solid, liquid and gas), weight, mass, gravity and density
    - pressure, pressure differential, backpressure and head pressure, fluid flow and viscosity
    - temperature effects and coefficients of expansion, flashpoint, boiling point and ice point
- metrological terms and terminology specific to instrument, such as maximum permissible errors, maximum permissible difference and maximum permissible variation, traceability, repeatability, uncertainty, error of measurement and error of indication, meter creep, hose dilation, temperature correction, linearization and gas elimination
- details of the design and applications for one (1) class of complex measuring instruments, the major instrument components and their function
- servicing licensee requirements, including:
    - quality management system
    - licence conditions
    - maintenance of statutory records
- national measurement legislation applicable to complex measuring instruments
- safe work method statements (SWMS) for trading environments relevant to job role
- NMI policy, National Instrument Test Procedures and operating procedures for equipment, and reference standards used in job role, including:
    - test conditions and possible environmental impacts on performance of the instrument
    - key preparation/measurement steps in test method
    - calculation steps to give results in appropriate units and precision
    - maximum permissible errors for instrument under test
    - safety principles and procedures relevant to instrument

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  - organisational policy and procedures for verifying a complex measuring instrument, including completion of test results, verification documents and statutory records
  - organisational safety procedures and requirements of applicable Commonwealth, state and territory work/occupational health and safety (WHS/OHS) legislation
- basic first aid and site safety induction, if required.

Assessment Conditions

- Judgement of competence must be based on holistic assessment of the evidence. Assessment methods must confirm consistency of performance over time, rather than a single assessment event.
- This unit of competency should be assessed in the workplace, or a simulated workplace environment. A simulated workplace environment must reflect realistic operational workplace conditions that cover all aspects of workplace performance, including the environment, task skills, task management skills, contingency management skills and job role environment skills.
- Foundation skills are integral to competent performance of the unit and should not be assessed separately.
- 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.
- Knowledge evidence may be collected concurrently with performance evidence or through an independent process, such as workbooks, written assessments or interviews (provided a record is kept in each case).
- This unit of competency may be assessed with:
  - *MSMTMREF301 Use and maintain reference standards*
- Holistic assessment methods include:
  - review of test results, verification documentation and verifier statutory records completed by the candidate
  - feedback from supervisors and peers regarding the candidate's ability to verify the performance of a complex measuring instrument in accordance with legislative and organisational procedures
  - questions to assess understanding of relevant verification procedures, servicing licensee requirements, trader obligations and remedial actions
  - review of candidate’s responses to verification scenarios, such as potential/actual non-compliances of traders and verifiers, appropriate actions, common issues and problems
  - observation of the candidate verifying a complex measuring instrument.
- Access is required to instruments, equipment, materials, workplace documentation, procedures and specifications associated with this unit, including, but not limited to:
  - latest versions of appropriate documentation, such as Certificates of Verification and Approval, NMI policy, intermediate National Instrument Test Procedures for verifying complex measuring instruments and relevant legislation
  - equipment manuals, safety data sheets (SDS), safety procedures and safety equipment
  - records, such as test reports; audit reports; instrument history and test results; and correction tables for volume, density and pressure for a range of liquids

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  - complex measuring instrument, test equipment and reference standards
  - computer and relevant software and/or organisation information management system.
- Assessors must satisfy the assessor competency requirements that are in place at the time of the assessment as set by the VET regulator.
- The assessor must demonstrate both technical competency and currency.
- Technical competence can be demonstrated through:
  - relevant VET or other qualification/Statement of Attainment AND/OR
  - relevant workplace experience in trade measurement at least to the level being assessed and broad industry knowledge (such as a relevant industry qualification).
- Currency can be demonstrated through:
  - performing the competency being assessed as part of current employment in trade measurement OR
  - having consulted with trade measurement inspectors and/or verifiers performing the competency being assessed within the last twelve months.

Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=d1287d36-dff4-4e9f-ad2c-9d6270054027

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MSMWHS100 Follow WHS procedures

Modification History

Release 1. Supersedes and is equivalent to MSAPMOHS100A Follow OHS procedures

Application

This unit of competency covers the skills and knowledge required to recognise hazards commonly occurring at the workplace and follow work health and safety (WHS) instructions and procedures.

It covers recognising known hazards, such as those identified in procedures or training, and identifying the underlying causes of these identified hazards.

This unit of competency applies to people on-site who are required to follow WHS instructions and procedures relating to the activity being undertaken. They will be aware of the importance of maintaining their own health and safety and the health and safety of others in the workplace and will also be capable of dealing with incidents and emergencies within their own scope of responsibility and under the direction of their supervisor for the site activity.

While the instructions and procedures must be derived from the relevant organisation WHS policies, the person is not required to understand or interpret these policies. This interpretation should be undertaken by their supervisor for the site activity when informing them of the WHS requirements.

This unit of competency applies to an individual who will be accompanied or directly supervised while on-site.

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

Pre-requisite Unit

Nil

Competency Field

Work health and safety

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Unit Sector

Elements and Performance Criteria

Elements describe the essential outcomes		Performance criteria describe the performance needed to demonstrate achievement of the element	
1	Recognise hazards	1.1	Identify hazards commonly found in the workplace
		1.2	Check work area routinely before and during work
		1.3	Describe causes of identified hazards
2	Follow procedures for hazard control	2.1	Follow procedures to remove or minimise hazards, within the scope of responsibilities and competencies
		2.2	Use required personal protective and other safety equipment (PPE)
		2.3	Describe the potential consequences of failing to follow these procedures and instructions
3	Follow emergency procedures	3.1	Recognise emergency/emergency alarm
		3.2	Go to muster point following procedure
		3.3	Follow instructions related to the emergency
4	Report problems	4.1	Report to appropriate people in accordance with workplace procedures when hazards or other problems arise

Foundation Skills

This section describes those language, literacy, numeracy and employment skills that are essential to performance.

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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)
- temporary instructions
- any similar instructions provided for the smooth running of the plant

Hazards

Hazards include one or more of the following:

- slip/trip hazards
- PPE not available or not functional
- heat, smoke, dust or other atmospheric hazards
- electricity
- gas
- gases and liquids under pressure
- equipment in unsafe condition with hazard controls not functional
- noise, rotational equipment or vibration
- fire and explosion

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- flammability and explosivity
- hazardous products and materials
- sharp edges, protrusions or obstructions, swarf and scrap
- extreme weather
- other hazards that might arise

Problems

Problems must be reported and corrective action taken according to relevant procedures.

Problems include one or more of the following:

- recognition of hazards
- problems encountered in controlling risks associated with hazards
- observation of an injury and/or incident which occurred in the workplace
- clarification of understanding of WHS policies and procedures

Appropriate personnel

Appropriate personnel include one or more of the following:

- employer
- supervisor
- employees elected as WHS representatives
- other personnel with WHS responsibilities

Reporting methods

Reporting methods include one or more of the following:

- verbal
- written

Unit Mapping Information

Release 1. Supersedes and is equivalent to MSAPMOHS100A Follow OHS procedures

Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=d1287d36-dff4-4e9f-ad2c-9d6270054027

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Assessment Requirements for MSMWHS100 Follow WHS procedures

Modification History

Release 1. Supersedes and is equivalent to MSAPMOHS100A Follow OHS procedures

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:

- recognise hazards
- use required personal protective equipment (PPE)
- take the action specified in the procedures
- report the situation as specified in the procedures

Knowledge Evidence

Evidence must be provided that demonstrates knowledge of:

- the rights and responsibilities of personnel under the WHS legislation
- hazard and emergency signs, labels and alarms
- hazards that may arise in the job/work environment, including:
  - their possible causes
  - potential consequences
  - appropriate risk controls
- types and application of PPE
- procedures for reporting WSE problems and taking action
- emergency procedures.

Assessment Conditions

- Competency must be achieved before performing this activity. Therefore this unit will typically be assessed off the job. Where assessment is undertaken on the job, appropriate supervision and safety precautions must be provided.
- 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 provide evidence of the ability to perform over the range of situations which might be expected to be encountered, including typical disruptions to normal, smooth work conditions
  - will typically include the use of appropriate tools, equipment and safety gear requiring demonstration of preparation, operation, completion and responding to problems

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    - may use industry-based simulation particularly where safety, lack of opportunity or significant cost is an issue.
- Off-the-job assessment must sufficiently reflect 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.
- Assessment in a simulated environment should use evidence collected from one or more of:
    - walk-throughs
    - 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

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MSMWHS110 Follow emergency response procedures

Modification History

Release 1. Supersedes and is equivalent to MSAPMOHS110A Follow emergency response procedures

Application

This unit of competency covers the skills and knowledge required to follow emergency response procedures in the workplace. It involves the use of workplace policies and procedures to maintain a safe work environment for oneself and others.

This unit of competency applies to personnel who are required to know the signals when an emergency situation takes place as well as the proper procedures to follow in order to save oneself from possible injury and/or death.

The unit of competency may be used as part of an induction program for new workers.

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

Work health and safety

Unit Sector

Elements and Performance Criteria

Elements describe the essential outcomes	Performance criteria describe the performance needed to demonstrate achievement of the element

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1	**Identify emergency situation**	1.1	Identify emergency signals and controls on machines and/or at the worksite
		1.2	Interpret the signals to take appropriate action
		1.3	Identify emergency where there is no mechanical/electronic signal
2	**Follow emergency procedures**	2.1	Report emergency according to procedures
		2.2	Identify emergency leader
		2.3	Follow workplace procedures and work instructions for dealing with a range of emergencies, under direct supervision of emergency leader
		2.4	Describe the potential consequences of failing to follow these procedures and instructions
		2.5	Describe what to do if the emergency leader cannot be located when emergency occurs

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:

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- 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:

- 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

Identifying emergency signals

Identifying emergency signals includes one or more of the following:

- recognising emergency alarm:
  - visual (e.g. flashing lights)
  - auditory (e.g. alarms - siren/horn)
- other signs of an emergency for that plant or site

Emergency procedures

Emergency procedures include:

- work instructions and actions to take to deal with specific emergencies
- emergency issues that workers must raise with designated personnel
- designated personnel
- what to do if the emergency leader cannot be located

Emergencies

Emergencies include one or more of the following:

- observation of injury or incident in the workplace
- fires
- chemical or oil spills
- gas leak or vapour emission
- utilities failure
- bomb scares
- failure or malfunction of plant/machinery

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Designated personnel	Designated personnel include one or more of the following: • employer • supervisor • employees elected as emergency team leader • other personnel with emergency team leader responsibilities

Unit Mapping Information

Release 1. Supersedes and is equivalent to MSAPMOHS110A Follow emergency response procedures

Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=d1287d36-dff4-4e9f-ad2c-9d6270054027

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Assessment Requirements for MSMWHS110 Follow emergency response procedures

Modification History

Release 1. Supersedes and is equivalent to MSAPMOHS110A Follow emergency response procedures

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:

- recognise emergency signals and other communication of an emergency
- identify emergency situations in which there is no mechanical/electronic signal
- follow procedures to:
  - identify the emergency leader
  - take the appropriate action in an emergency
  - report according to procedures.

Knowledge Evidence

Evidence must be provided that demonstrates knowledge of:

- emergency, fire and injury procedures
- spill or other loss of containment (LOC) procedures
- communicating methods appropriate to role
- reporting requirements.

Assessment Conditions

Competency must be achieved before performing this work unsupervised. Therefore this unit will typically be assessed off the job. Where assessment is undertaken on the job, appropriate supervision and safety precautions must be provided.

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 provide evidence of the ability to perform over the range of situations which might be expected to be encountered including typical disruptions to normal, smooth work conditions
- will typically include the use of appropriate tools, equipment and safety gear requiring demonstration of preparation, operation, completion and responding to problems

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- may use industry-based simulation particularly where safety, lack of opportunity or significant cost is an issue.

Off-the-job assessment must sufficiently reflect 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.

On-the-job assessment will typically involve participation in an emergency drill.

Assessment in a simulated environment should use evidence collected from one or more of:

- walk-throughs
- 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

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MSMWHS200 Work safely

Modification History

Release 3. Equivalent. Mapping information updated.

Release 2. Equivalent. Minor edits for improved clarity. Range of conditions removed. Duplication between Performance Evidence and Performance Criteria removed. Assessment conditions updated.

Release 1. Supersedes and is equivalent to MSAPMOHS200A Work safely.

Application

This unit describes the skills and knowledge required to apply workplace policies and procedures to maintain a safe work environment for self and others. This includes identifying work health and safety (WHS) hazards, assessing risk and following safety procedures in the workplace with minimal supervision.

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

Work health and 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. Identify hazards and assess risk	1.1 Identify hazards in the work area before and during work 1.2 Access and apply relevant safety data sheets (SDS) 1.3 Assess risks for the identified hazards

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Elements	**Performance Criteria**
Elements describe the essential *outcomes.*	*Performance criteria describe the performance needed to demonstrate achievement of the element.*
	1.4 Identify controls for these hazards from procedures 1.5 Review effectiveness of controls within the scope of authority 1.6 Identify and report remaining risk
2. Follow procedures for risk control	2.1 Control risks when working under minimal supervision by following workplace procedures 2.2 Follow safety signs and other safety indicators and zones 2.3 Select, use and maintain relevant personal protective equipment (PPE) 2.4 Handle and store items and materials relevant to job safely
3. Follow emergency procedures	3.1 Recognise emergency situations 3.2 Take appropriate initial emergency action 3.3 Follow procedures for dealing with a range of site or plant emergencies
4. Participate in the enhancement of safety	4.1 Raise WHS issues with designated personnel in accordance with workplace procedures and relevant requirements of WHS legislation 4.2 Contribute to participative arrangements for WHS management in the workplace within organisation procedures and the scope of responsibilities and competencies 4.3 Provide input to minimise hazards in work area in line with organisation WHS procedures 4.4 Provide input to opportunities for development of work group's competencies in relation to WHS 4.5 Support the implementation of procedures to control risks using the hierarchy of control and in accordance with organisation procedures 4.6 Report to appropriate people in accordance with workplace procedures when non-routine hazards arise
5. Work in accordance with WHS policies and procedures	5.1 Follow workplace procedures to achieve a safe working environment in accordance with all relevant WHS legislation, including codes of practice relating to hazards within the workplace or industry 5.2 Identify the duties, rights and obligations of employees and employers under the relevant WHS legislation 5.3 Complete hazard, accident or incident reports as required by workplace procedures

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Elements	Performance Criteria
Elements describe the essential *outcomes.*	*Performance criteria describe the performance needed to demonstrate achievement of the element.*
	5.4 Seek assistance with documentation and processes when needed

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 MSAPMOHS200A Work safely

Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=d1287d36-dff4-4e9f-ad2c-9d6270054027

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Assessment Requirements for MSMWHS200 Work safely

Modification History

Release 3. Equivalent. Mapping information updated.

Release 2. Equivalent. Minor edits for improved clarity. Range of conditions removed. Duplication between Performance Evidence and Performance Criteria removed. Assessment conditions updated.

Release 1. Supersedes and is equivalent to MSAPMOHS200A Work safely.

Performance Evidence

There must be evidence the candidate has completed the tasks outlined in the elements and performance criteria of this unit, and:

- identified hazards relevant to work area and followed procedures to:
  - assess risks associated with the hazards
  - identify and apply standard controls
  - check that controls are in place and operational.
  -

Knowledge Evidence

There must be evidence the candidate has knowledge of:

- organisational work health and safety (WHS) procedures, including procedures for reporting WHS problems and corrective actions
- duties, rights and obligations of employees and employers under the relevant WHS legislation as they relate to the job role
- hazards that may arise in the work environment, including:
  - their possible causes
  - potential consequences
  - appropriate risk controls
- hierarchy of control
- types and application of personal protective equipment (PPE)
- hazard and emergency signs, labels and alarms
- appropriate responses to non-standard situations.
-

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:

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- use of suitable facilities, equipment and resources, including:
  - WHS procedures, incident reporting documentation and safety data sheets (SDS).
  - personal protective equipment (PPE)

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

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MSMWHS201 Conduct hazard analysis

Modification History

Release 1 - New unit

Application

This unit of competency covers the skills and knowledge required to conduct a hazard analysis. These are typically called:

- job safety analysis (JSA)
- job hazard analysis (JHA)
- job safety and environmental analysis (JSEA)
- safe work method statement (SWMS)

It is not intended to apply to simpler routine hazard checks, such as ‘Take 5’, Step Back 5x5’, five step or similar.

This might be done as an independent activity in order to identify hazards and the appropriate hazard controls, or it might be done as part of a broader process, such as identifying and applying for the permits required for a job.

The conducting of a hazard analysis may be required under a safety case, by organisation procedures or simply as being good practice.

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.

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

Pre-requisite Unit

Nil

Competency Field

Work health and safety

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Unit Sector

Elements and Performance Criteria

Elements describe the essential outcomes		Performance criteria describe the performance needed to demonstrate achievement of the element	
1	Define the context for the hazard analysis	1.1	Identify the scope and purpose of the hazard analysis
		1.2	Access the relevant forms or procedures for conducting a hazard analysis
		1.3	Identify specialised knowledge which may be required to conduct the hazard analysis
2	Identify hazards	2.1	Find out job steps to be undertaken
		2.2	Identify hazards of job site
		2.3	Obtain specialised knowledge required
		2.4	Identify hazards for each job step
		2.5	Enter information into appropriate forms in accordance with procedures
3	Assess risks	3.1	Estimate the potential severity/consequence of each identified hazard
		3.2	Consider how hazards may cause harm
		3.3	Estimate the likelihood/possible frequency of harm
		3.4	Use the organisation’s risk matrix to prioritise each risk
		3.5	Enter information into appropriate forms in accordance with procedures
4	Control risks	4.1	Apply organisation’s risk control procedures
		4.2	Use the hierarchy of control so that risks are as low as reasonably practicable (ALARP)

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		4.3	Specify risk controls
		4.4	Check the effectiveness of controls
		4.5	Identify residual risk and implement any additional controls required
		4.6	Enter information into appropriate forms in accordance with procedures.
5	Monitor and review risk controls	5.1	Monitor risk controls and review their effectiveness
		5.2	Keep records 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
- Dangerous Goods regulations
- Hazardous substances regulations
- Hazardous Substances Information System
- Major hazard facility requirements, if relevant

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- AS 2865-2009 Confined spaces
- AS 1674 Set-2007 Safety in welding and allied processes (covers all hot work)
- AS 4024.1-2014 Series - Safety of machinery
- AS/NZ 1715:2009 Selection use and maintenance of respiratory protective equipment
- National Standard for Plant [NOHSC:1010 (1994)]
- National exposure standards for atmospheric contaminants in the occupational environment [NOHSC:1003 (1995)]

Scope and purpose

The scope includes the unique identification of the plant items and/or work area which is the subject of the hazard analysis, and by default the adjoining plant/areas.

The purpose includes undertaking one or more of:

- a routine hazard analysis for a work area
- a hazard analysis for a specified job
- a hazard analysis as a precursor to issuing permits
- other purposes defined by organisation procedures

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:

- permit control system
- emergency procedures
- work instructions
- standard operating procedures (SOPs)
- safe work method statements (SWMS)
- temporary instructions
- any similar instructions provided for the smooth running of the plant

Hazards

Hazards include one or more of the following:

- incomplete process isolations
- mechanical and electrical isolations not in place
- atmospheric testing incomplete and atmosphere unsafe
- smoke, darkness and heat
- heat, smoke, dust or other atmospheric hazards

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- 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

Specialised knowledge

Specialised knowledge includes information sourced from one or more of the following:

- the person doing the job
- an internal or external technical specialist
- a health and safety expert
- other operational personnel
- literature or internet information
- incident and other records
- risk register
- other knowledge resources of the organisation

Risk

Risk requires the consideration of the consequences of an event and one or both of:

- likelihood/probability
- expected frequency

Severity/consequence

The severity or consequence is typically interpreted against a scale ranging from minor (may require first aid, no lost time, no damage to plant or environment) through to major (may result in death,

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significant damage to plant or environment)

Harm from hazards Harm from hazards includes:

- exposure routes (ingestion, inhalation and skin/eye contact)
- chain of events (event/cause tree and bow tie)
- causal sequence which results in harm to persons, environment, plant or product

ALARP ALARP means as low as reasonably practicable and requires:

- identifying the risk reduction measures available
- determining the level of risk reduction that can be achieved and the associated cost
- implementing the risk reduction measure unless the cost is grossly disproportionate to the benefits of the risk reduction
- justifying available measures that are not taken

Unit Mapping Information

No equivalent unit.

Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=d1287d36-dff4-4e9f-ad2c-9d6270054027

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Assessment Requirements for MSMWHS201 Conduct hazard analysis

Modification History

Release 1 - New unit

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:

- complete a hazard analysis
- specify risk controls to bring risks to ALARP
- identify relevant personnel
- complete appropriate hazard analysis forms (paper or electronic)
- monitor and review effectiveness of risk controls.

Knowledge Evidence

Evidence must be provided that demonstrates knowledge of:

- the significance of the analysis context
- how the identified hazards may cause harm
- purpose and use of the risk matrix
- monitoring and review of risk controls.

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 is best done from a hazard analysis report and/or folio of evidence drawn from:
  - a single project which provides sufficient evidence of the requirements of all the elements and performance criteria
  - multiple smaller projects which together provide sufficient evidence of the requirements of all the elements and performance criteria.
- A third-party report, or similar, may be needed to testify to the work done by the individual, particularly when the project has been done as part of a project team.
- 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.

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- 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).
- Where part of a broader role it may be conveniently co-assessed with units relevant to that broader job.
- 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

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MSMWHS205 Control minor incidents

Modification History

Release 1. Supersedes and is equivalent to MSAPMOHS205A Control minor incidents

Application

This unit of competency covers the skills and knowledge required to control minor incidents. The general purpose of this initial response is to prevent any incident from escalating. In the event of an incident this person may be expected to respond to an incident team member in accordance with procedures.

The unit of competency applies to most operations personnel and some non-operations personnel. It covers skills and knowledge beyond what is typically covered in an induction program, but does not require specialist training, such as is given to members of an incident response team.

Generally the person would be part of a team during an incident response. However, he/she may be required to take independent action. At all times they would be liaising and cooperating with other members of the team.

This unit applies to all sectors of the industry.

This unit will assist individuals to meet some of their obligations under relevant state/territory legislation. However, the unit must be contextualised to ensure compliance with specific regulatory requirements that may apply in a sector, jurisdiction, or type of organisation.

Organisations within the chemical, hydrocarbons and refining industries may find themselves falling under the provisions of various Major Hazard Facilities legislation. In developing this unit consideration has been given to the requirements of Sections 8 and 9 of the National Standard for the Control of Major Hazard Facilities [NOHSC:1014 (2002)] and the National Code of Practice for the Control of Major Hazard Facilities [NOHSC:2016 (1996)].

This unit does NOT apply to more significant incidents where higher levels of incident response competencies may be required.

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

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Pre-requisite Unit

Nil

Competency Field

Work health and safety

Unit Sector

Elements and Performance Criteria

Elements describe the essential outcomes		Performance criteria describe the performance needed to demonstrate achievement of the element	
1	**Evaluate the** incident	1.1	Recognise an incident has occurred or is about to occur
		1.2	Assess the incident for type of response and the likely effectiveness of first response action
		1.3	Identify the hazards arising from the incident
		1.4	Raise the alarm and seek assistance as required
		1.5	Select appropriate response to control incident
		1.6	Determine hazard control measures to be employed
		1.7	Recommend evacuation if appropriate
2	**Control the incident**	2.1	Maintain personal safety at all times
		2.2	Confine the incident to the area of origin where possible
		2.3	Select appropriate equipment to control incident
		2.4	Use equipment in accordance with procedures
		2.5	Clear and secure the incident area
		2.6	Monitor the incident and surrounding conditions and modify response as appropriate
		2.7	Hand over to specialist incident response personnel as

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			appropriate
3	**Conclude the incident control**	3.1	Report the use of equipment according to procedures
		3.2	Mark or position incident control equipment after use to indicate it requires servicing or replacing
		3.3	Participate in incident debrief and report 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:

- National Standard for the Control of Major Hazard Facilities [NOHSC:1014 (2002)] (where applicable)
- National Code of Practice for the Control of Major Hazard Facilities [NOHSC:2016 (1996)] (where applicable)
- 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

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form, and include one or more of the following:

- emergency procedures
- work instructions
- standard operating procedures (SOPs)
- safe work method statements (SWMS)
- temporary instructions
- any similar instructions provided for the smooth running of the plant

Minor incidents

Minor incidents include one or more of the following:

- fires of the A,B,C,D,E and F classes
- fuel and other spills, and losses of containment (LOC)
- process overheating
- equipment failure

Hazards

Hazards include one or more of the following:

- 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

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Equipment

Equipment includes one or more of the following:

- fire doors
- fire sprinkler systems
- fire alarm systems
- first aid kits
- fire-extinguishers
- hoses not requiring special training
- smoke vents
- spill control kits
- personal protective equipment (PPE)
- other hazard control equipment defined in procedures

Appropriate personnel

Appropriate personnel include one or more of the following:

- employer
- supervisor
- employees elected as WHS representatives
- other personnel with WHS responsibilities

Unit Mapping Information

Release 1. Supersedes and is equivalent to MSAPMOHS205A Control minor incidents

Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=d1287d36-dff4-4e9f-ad2c-9d6270054027

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Assessment Requirements for MSMWHS205 Control minor incidents

Modification History

Release 1. Supersedes and is equivalent to MSAPMOHS205A Control minor incidents

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:

- recognise an incident
- evaluate the incident and select an appropriate response
- check equipment and apply correct follow-up procedures.

Knowledge Evidence

Evidence must be provided that demonstrates knowledge of:

- classification of fires and other incidents relevant to job/site
- types and application of first response equipment and personal protection equipment (PPE)
- limitations of first response equipment
- situations that must not be responded to because of the risk to life
- scope and limitations of own role and responsibilities
- appropriate personnel for referral and reporting.

Assessment Conditions

- Competency must be achieved before performing this work unsupervised. Therefore this unit will typically be assessed off the job. Where assessment is undertaken on the job, appropriate supervision and safety precautions must be provided.
- 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 provide evidence of the ability to perform over the range of situations which might be expected to be encountered, including typical disruptions to normal, smooth work conditions
  - must include the use and actual deployment of appropriate tools, equipment (e.g. fire-extinguishers and spill kits) and safety gear requiring demonstration of preparation, operation, completion and responding to problems
  - may use simulated fires, losses of containment or other incidents
  - is not expected to require the use of a fire ground or similar.

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- Off-the-job assessment must sufficiently reflect 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.
- Assessment in a simulated environment should use evidence collected from one or more of:
  - walk-throughs
  - 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

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MSMWHS210 Undertake first response to non-fire incidents

Modification History

Release 2. Addition of information missing from the Assessment Requirements. Equivalent.

Release 1. Supersedes and is equivalent to MSAPMOHS210B Undertake first response to non-fire incidents

Application

This unit of competency covers the skills and knowledge required to recognise and respond to an incident (except for fire/explosion) to provide an appropriate first response.

This unit of competency applies to operators who are required to respond to an incident, such as a leak, spill or other incident. The worker is not expected to deal with the emerging incident, but to provide an initial first response in order to contain the incident and/or secure the immediate area in order to minimise resultant damages and loss. In this unit it is assumed that the worker is acting according to established workplace procedures.

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.

Organisations within the chemical, hydrocarbons and refining industries may find themselves falling under the provisions of various Major Hazard Facilities legislation. In developing this unit consideration has been given to the requirements of Sections 8 and 9 of the National Standard for the Control of Major Hazard Facilities [NOHSC:1014 (2002)] and the National Code of Practice for the Control of Major Hazard Facilities [NOHSC:2016 (1996)].

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

Pre-requisite Unit

Nil

Competency Field

Work health and safety

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Unit Sector

Elements and Performance Criteria

Elements describe the essential outcomes		Performance criteria describe the performance needed to demonstrate achievement of the element	
1	Assess level of severity	1.1	Recognise an incident has occurred or is about to occur
		1.2	Access hazard information as appropriate
		1.3	Assess frequency, duration, actual and potential outcome
		1.4	Evaluate and communicate in a timely and appropriate manner the location, nature and extent of the incident
2	Undertake routine response to minimise affect of the incident	2.1	Select the appropriate response from the incident procedures
		2.2	Clear and secure the incident area
		2.3	Select appropriate materials and equipment to contain the incident
		2.4	Safely locate access and operate incident response equipment
		2.5	Apply incident containment procedures as appropriate
3	Notify responsible authorities	3.1	Follow incident reporting procedures
		3.2	Identify appropriate authorities and notify
		3.3	Clearly and unambiguously communicate information concerning the incident in a timely manner
4	Undertake safe evacuation	4.1	Evacuate the area in a safe and controlled manner when first response has failed to control the incident or has proven inappropriate
		4.2	Secure the immediate area of the incident to ensure no further loss occurs to people, equipment, materials,

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process and environment

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
- National Standard for the Control of Major Hazard Facilities [NOHSC:1014 (2002)] (where applicable)
- National Code of Practice for the Control of Major Hazard Facilities [NOHSC:2016 (1996)] (where applicable)

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)
- temporary instructions
- any similar instructions provided for the smooth running of the plant

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Hazards and incidents

Hazards and incidents include one or more of the following:

- 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
- flammability and explosivity
- hazardous products and materials
- unauthorised personnel
- sharp edges, protrusions or obstructions
- slippery surfaces, spills or leaks
- limited head spaces or overhangs
- extreme weather
- other hazards that might arise

Tools and equipment

Tools and equipment include one or more of the following:

- personal protective equipment (PPE)
- incident response equipment, such as spill kits and vapour dispersion
- evacuation equipment
- survival equipment
- breathing apparatus
- smoke or self rescue respirators
- atmosphere/gas testing equipment
- mobile and portable equipment
- first aid equipment
- pipeline repair clamps
- lamb air movers
- barricades and signage
- communications equipment, such as two-way radios, mobile and satellite phones and pagers

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Responsible authorities

Responsible authorities include one or more of the following:

- internal personnel:
  - employer
  - supervisor
  - employees elected as incident team leader
  - other personnel with incident team leader responsibilities
- external personnel:
  - police
  - fire brigade
  - ambulance

Unit Mapping Information

Release 2. Addition of information missing from the Assessment Requirements. Equivalent.

Release 1. Supersedes and is equivalent to MSAPMOHS210B Undertake first response to non-fire incidents

Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=d1287d36-dff4-4e9f-ad2c-9d6270054027

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Assessment Requirements for MSMWHS210 Undertake first response to non-fire incidents

Modification History

Release 2. Addition of information missing from the Assessment Requirements. Equivalent.

Release 1. Supersedes and is equivalent to MSAPMOHS210B Undertake first response to non-fire incidents

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:

- recognise and assess incident situations
- determine appropriate actions according to procedures and within scope of own responsibilities, including:
  - evacuate (self/others)
  - seek assistance as appropriate
  - apply control measures
  - select and use incident response equipment
  - select and use personal protective equipment (PPE)
  - implement corrective action
  - minimise the effect of an incident situation
- communicate clearly and unambiguously with a range of personnel on incident situations, related problems and safety and emergency procedures.

Knowledge Evidence

Evidence must be provided that demonstrates knowledge of:

- types and application of incident response equipment
- principles of operation of the incident response equipment
- types and application of PPE
- roles and responsibilities of internal and external personnel in relation to incident situations
- communicating methods appropriate to role
- appropriate responses to different non-fire situations.

Assessment Conditions

- Competency must be achieved before performing this work unsupervised. Therefore this unit will typically be assessed off the job. Where assessment is undertaken on the job, appropriate supervision and safety precautions must be provided.

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- 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 provide evidence of the ability to perform over the range of situations which might be expected to be encountered, including typical disruptions to normal, smooth work conditions
  - must include the use of appropriate incident containment tools, equipment, media and safety gear requiring demonstration of preparation, operation, completion and responding to problems
  - must include responding to an actual spill or other incident in a simulated industrial situation and so may need to occur in a specialised area.
- Off-the-job assessment must sufficiently reflect 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.
- Knowledge evidence will be collected independently of the above practical assessment and may use workbooks, written assessments, interviews (provided a record is kept) or other methods.
- 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.
- Persons seeking verification of competence/retraining must meet the same evidence requirements as above.
- 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

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MSMWHS212 Undertake first response to fire incidents

Modification History

Release 1. Supersedes and is equivalent to MSAPMOHS212A Undertake first response to fire incidents

Application

This unit of competency covers the skills and knowledge required to undertake an appropriate first response to fire incidents in onshore and offshore situations/emergencies.

People working, operating or who regularly travel to an onshore or offshore hydrocarbon/petrochemical installation or facility or major hazard facility may require this competency.

This unit could be applied to any of the following installations or facilities:

- factories and production plants
- onshore/offshore rig/installation
- island based facility
- floating production vessel or platform
- onshore production, processing pipeline systems and/or storage facilities
- pipeline easements
- maintenance bases.

This unit of competency applies to operators who are required to respond to fires in the workplace (other than evacuating to the assembly point). It covers the first response (only) to fire, and does not include aggressive fire-fighting. Typically this response would be undertaken to contain/extinguish a minor fire or to contain a more major fire until external help arrives (for an urban plant) or to allow for mobilisation of more highly trained responders or evacuation (for a remote/offshore plant).

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.

Organisations within the chemical, hydrocarbons and refining industries may find themselves falling under the provisions of various Major Hazard Facilities legislation. In developing this unit consideration has been given to the requirements of Sections 8 and 9 of the National Standard for the Control of Major Hazard Facilities [NOHSC:1014 (2002)] and the National Code of Practice for the Control of Major Hazard Facilities [NOHSC:2016 (1996)].

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

Pre-requisite Unit

Nil

Competency Field

Work health and safety

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 fire emergency and raise alarm	1.1	Evaluate and communicate the location, nature and extent of the fire emergency in a timely and appropriate manner
		1.2	Determine first response requirements in order to evaluate the need to attack the fire emergency or evacuate the affected areas
2	Initiate basic fire responses	2.1	Maintain personal safety at all times in accordance with work health and safety (WHS) guidelines
		2.2	Put on appropriate personal protective equipment (PPE) in accordance with organisation procedures
		2.3	Select appropriate extinguishing agents and equipment based on knowledge of fire and fuel types
		2.4	Operate basic fire-fighting equipment safely, according to manufacturer specifications and organisation procedure, in order to contain the fire emergency
		2.5	Observe changing conditions at the fire, their effects on fire behaviour and report

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3	Notify responsible authorities	3.1	Follow emergency reporting procedures
		3.2	Identify and notify appropriate authorities
		3.3	Clearly and unambiguously communicate information concerning the emergency in a timely manner
4	Undertake safe evacuation	4.1	Evacuate area in a safe and controlled manner when first response has failed to control the fire emergency, or has proven inappropriate
		4.2	Secure immediate area of the emergency to ensure no further loss occurs to people, equipment, process and environment

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
- National Standard for the Control of Major Hazard Facilities [NOHSC:1014 (2002)] (where applicable)

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- National Code of Practice for the Control of Major Hazard Facilities [NOHSC:2016 (1996)] (where applicable)

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
- manufacturer specifications
- work instructions
- standard operating procedures (SOPs)
- safe work method statements (SWMS)
- temporary instructions
- any similar instructions provided for the smooth running of the plant

Hazards

Hazards include one or more of the following:

- 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

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Tools and equipment

Tools and equipment include one or more of the following:

- appropriate PPE
- breathing apparatus
- handheld extinguishers
- hose reels
- fire monitors
- fire blankets
- smoke or self rescue respirators
- mobile and portable equipment
- first aid equipment
- pipeline repair clamps
- lamb air movers
- barricades and signage
- communication equipment, such as two-way radios, mobile and satellite phones and pagers
- fire-extinguishing media, including water, foam, extinguishing powder, gaseous extinguishing agents, vapourising liquids, and other fire-extinguishing substances

Basic fire response

Basic fire response includes one or more of the following fire-fighting tactics:

- direct attack
- indirect attack
- combination attack
- exposure protection

It does NOT include internal/offensive attacks

Responsible authorities

Responsible authorities include one or more of the following:

- internal:
  - employer
  - supervisor
  - employees elected as incident team leader
  - other personnel with incident team leader responsibilities
- external:
  - police
  - fire brigade
  - ambulance

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Unit Mapping Information

Release 1. Supersedes and is equivalent to MSAPMOHS212A Undertake first response to fire incidents

Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=d1287d36-dff4-4e9f-ad2c-9d6270054027

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Assessment Requirements for MSMWHS212 Undertake first response to fire incidents

Modification History

Release 1. Supersedes and is equivalent to MSAPMOHS212A Undertake first response to fire incidents

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:

- recognise and assess fire situations, including the identification of different types of fires and fuels
- determine appropriate actions according to procedures and within scope of own responsibilities, including:
  - evacuate (self/others)
  - seek assistance as appropriate
  - apply control measures
  - select and use a range of first response fire-fighting safety equipment
  - select and use appropriate extinguishing agent
  - apply defensive fire-fighting tactics and techniques
  - select and use personal protective equipment (PPE)
  - minimise the effect of a fire incident
- communicate clearly and unambiguously with a range of personnel on fire emergency conditions, related problems and safety and emergency procedures.

Knowledge Evidence

Evidence must be provided that demonstrates knowledge of:

- organisational procedures, including:
  - site or organisation emergency procedures and response plans
  - site-specific isolation procedures
- characteristics of fire and fuel types
- composition and uses of extinguishing agents
- types and application of basic firefighting equipment
- types and application of PPE
- roles and responsibilities of internal and external personnel in relation to fire incidents
- appropriate responses to different fire situations.

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Assessment Conditions

- Competency must be achieved before performing this work unsupervised. Therefore this unit will typically be assessed off the job. Where assessment is undertaken on the job appropriate supervision and safety precautions must be provided.
- 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 provide evidence of the ability to perform over the range of situations which might be expected to be encountered, including typical disruptions to normal, smooth work conditions
  - must include the use of appropriate firefighting tools, equipment, extinguishing media and safety gear requiring demonstration of preparation, operation, completion and responding to problems
  - must include responding to an actual fire in a simulated industrial situation (e.g. a fire ground).
- Off-the-job assessment must sufficiently reflect 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.
- Knowledge evidence will be collected independently of the above practical assessment and may use workbooks, written assessments, interviews (provided a record is kept) or other methods.
- 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.
- Persons seeking verification of competence/retraining must meet the same evidence requirements as above.
- 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

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MSMWHS216 Operate breathing apparatus

Modification History

Release 1. Supersedes and is equivalent to MSAPMOHS216A Operate breathing apparatus

Application

This unit of competency covers the skills and knowledge required to operate and maintain breathing apparatus and equipment in an irrespirable atmosphere, as defined by the Australian Standard AS/NZS 1715:2009 Selection, use and maintenance of respiratory protective equipment.

This unit of competency applies to operators who are required to wear breathing apparatus because they are working:

- in a confined space
- with hazardous gases/vapours
- in an oxygen deficient atmosphere
- in other situations requiring the wearing of breathing apparatus.

Operators may also be required to wear breathing apparatus in emergency situations, however, this is not the prime focus of this unit.

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.

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

Pre-requisite Unit

Nil

Competency Field

Work health and safety

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Unit Sector

Elements and 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	Inspect breathing apparatus for immediate use in accordance with procedures
		1.2	Report/record faulty or damaged equipment in accordance with procedures
2	Operate breathing apparatus	2.1	Identify, monitor and control hazards in accordance with the procedures
		2.2	Establish and maintain communication with appropriate personnel throughout the activity
		2.3	Use breathing apparatus for the required activities in accordance with procedures
		2.4	Monitor remaining working time available and return to a respirable atmosphere as required
		2.5	Implement entrapment procedures in accordance with procedures
		2.6	Maintain personal safety at all times
3	Conclude operations in accordance with procedures	3.1	Close down breathing apparatus set
		3.2	Remove breathing apparatus set
		3.3	Undertake after-use cleaning and maintenance of breathing apparatus
		3.4	Make equipment ready for operational use

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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:
- *AS/NZS 1715:2009 Selection, use and maintenance of respiratory protective equipment* or its authorised replacement

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)
- temporary instructions
- any similar instructions provided for the smooth running of the plant

Breathing apparatus

Breathing apparatus includes one or more of open circuit:

- self-contained breathing apparatus (SCBA)
- airline equipment
- other similar breathing apparatus

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It does not cover the use of rebreather (closed circuit) apparatus.

Hazards Hazards include one or more of the following:

- entrapment
- failure to maintain a face seal
- exhaustion of air supply
- heated atmospheres
- asphyxiating atmosphere (oxygen deficient)
- (non-skin absorption) toxic or poisonous atmosphere
- smoke or suspended particles/fibres in atmosphere
- malfunction of equipment
- disorientation in smoke, darkness or confinement
- fire and explosion
- 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
- 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

Unit Mapping Information

Release 1. Supersedes and is equivalent to MSAPMOHS216A Operate breathing apparatus

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Links

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Assessment Requirements for MSMWHS216 Operate breathing apparatus

Modification History

Release 1. Supersedes and is equivalent to MSAPMOHS216A Operate breathing apparatus

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:

- conduct pre-donning tests on breathing apparatus
- correctly don and operate breathing apparatus
- identify hazards and apply control measures according to procedures
- communicate while using breathing apparatus
- determine the available working time from a breathing apparatus set
- correctly close down, remove and clean breathing apparatus
- report faults and/or damage to breathing apparatus.

Knowledge Evidence

Evidence must be provided that demonstrates knowledge of:

- the effects of irrespirable atmospheres on the body and the need for protective equipment
- characteristics, component parts, operation of compressed air breathing apparatus
- operational testing, standard operating procedures (SOPs) and safe work practices when wearing breathing apparatus
- use of procedures, personal lines and tallies
- pre-use tests and checks
- breathing apparatus control
- entrapment procedures
- communications while wearing breathing apparatus.

Assessment Conditions

- Competency must be achieved before performing this work unsupervised. Therefore this unit will typically be assessed off the job. Where assessment is undertaken on the job appropriate supervision and safety precautions must be provided.
- The unit should be assessed holistically and the judgement of competence based on a holistic assessment of the evidence.
- The collection of performance evidence:

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  - should provide evidence of the ability to perform over the range of situations which might be expected to be encountered, including typical disruptions to normal, smooth work conditions
  - must include the use of breathing apparatus, 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.
- Off-the-job assessment must sufficiently reflect 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.
- Assessment in a simulated environment should use evidence collected from one or more of:
  - walk-throughs
  - 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

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MSMWHS217 Gas test atmospheres

Modification History

Release 1. Supersedes and is equivalent to MSAPMOHS217A Gas test atmospheres

Application

This unit of competency covers the skills and knowledge required to test the working atmosphere, using electronic test apparatus, to find out if it is safe for the proposed work.

It applies to situations where an individual may be required to carry out gas testing of an atmosphere prior to entering a specific area or workspace. The competency requires the person to interpret readings and take actions based on the interpretation.

Working environment may be hazardous, unpredictable, subject to time pressure, chaotic and expose responders to risk, on land or water, by day or night. Workplace atmospheres may include visible and invisible hazards and hazardous surfaces.

The unit is suitable for use in the following situations:

- confined spaces
- enclosed and partially enclosed spaces
- hot work
- storage tanks, silos, pits, pipes, shafts, ducts, transport vehicles and ships
- testing as part of issuing a work permit
- monitoring as part of working under a work permit
- open areas
- holding the gas tester by hand
- lowering the gas tester into a space, e.g. on a line.

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.

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

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Pre-requisite Unit

Nil

Competency Field

Work health and safety

Unit Sector

Elements and Performance Criteria

Elements describe the essential outcomes		Performance criteria describe the performance needed to demonstrate achievement of the element	
1	Prepare for gas testing	1.1	Find out type of gas/atmosphere to be tested
		1.2	Select and calibrate equipment in accordance with procedures
		1.3	Find out gas testing regime/sampling pattern required
		1.4	Identify hazards from possible atmosphere contaminants
		1.5	Implement hazard control measures and use of appropriate personal protective equipment (PPE)
2	Test gas	2.1	Use gas testing equipment to test gas as required
		2.2	Interpret and report readings
		2.3	Monitor gas on an ongoing basis as required
		2.4	Take required action if readings are unacceptable
		2.5	Communicate required actions to be taken to appropriate personnel
3	Maintain equipment	3.1	Clean and maintain gas testing equipment in accordance with procedures
		3.2	Inspect and fault-find monitoring equipment in

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accordance with procedures

3.3 Return gas testing equipment to required location and in required condition

3.4 Maintain records of tests and results 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
- AS 2865-2009 Confined spaces
- AS 1674.1-1997 Welding and allied processes - Fire precautions

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)

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- 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:

- portable instruments
- sampling tubes and pumps
- oxygen level meter
- combustible gas detectors
- other hazardous gas meters
- PPE

Routine problems

Routine problems must be resolved by applying known solutions.

Routine problems include one or more of the following:

- changes in readings
- unexpected readings
- faults in equipment

Known solutions include one or more of the following:

- procedures
- training
- remembered experience

Non-routine problems must be reported according to according to relevant procedures.

Hazards

Hazards include one or more of the following:

- smoke, darkness and heat
- heat, smoke, dust or other atmospheric hazards
- electricity
- gas
- gases and liquids under pressure
- structural hazards
- structural collapse
- equipment failures

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- 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
- limited head spaces or overhangs
- extreme weather
- other hazards that might arise

Unit Mapping Information

Release 1. Supersedes and is equivalent to MSAPMOHS217A Gas test atmospheres

Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=d1287d36-dff4-4e9f-ad2c-9d6270054027

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Assessment Requirements for MSMWHS217 Gas test atmospheres

Modification History

Release 1. Supersedes and is equivalent to MSAPMOHS217A Gas test atmospheres

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 must include the ability to:

- recognise and assess conditions that require testing
- identify the appropriate action according to procedures and within scope of responsibility, including:
  - selecting, preparing and using gas testing equipment
  - applying testing regime
  - selecting and using personal protective equipment (PPE)
  - identifying hazards and applying control measures
  - cleaning and maintaining equipment
- take readings and interpret, report/record relevant data
- apply known solutions to routine problems
- communicate clearly and unambiguously with a range of personnel on safety conditions and procedures.

Knowledge Evidence

Evidence must be provided that demonstrates knowledge of:

- organisational procedures, including:
  - work permit systems
  - safety, hazards and hazard control
  - incident, fire and accident
  - PPE
  - organisation standard operating procedures (SOPs)
- common atmospheric hazards and contaminants
- explosive range, upper and lower explosive limits
- exposure standards (time-weighted average, short-term exposure limits, peak limitation values, and examination of toxic effect at the level of a range of flammable gases)
- conditions under which atmospheres become hazardous
- units of measurement used to express concentration of atmospheric contaminants (mg/cubic m. ppm, % v/v).

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Assessment Conditions

- Competency must be achieved before performing this work unsupervised. Therefore this unit will typically be assessed off the job. Where assessment is undertaken on the job appropriate supervision and safety precautions must be provided.
- The unit should be assessed holistically and the judgement of competence based on a holistic assessment of the evidence.
- The collection of performance evidence:
  - must include the use of the relevant gas testing meters and any other relevant tools, equipment and safety gear, and require demonstration of preparation, operation, completion and responding to problems
  - should provide evidence of the ability to perform over the range of situations which might be expected to be encountered, including typical disruptions to normal, smooth work conditions
  - may use industry-based simulation particularly where safety, lack of opportunity or significant cost is an issue.
- Off-the-job assessment must sufficiently reflect 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.
- Assessment in a simulated environment should use evidence collected from one or more of:
  - walk-throughs
  - 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

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MSMWHS218 Control the risks of falls

Modification History

Release 1. New unit

Application

This unit of competency covers the skills and knowledge required to recognise and control the risks of falls.

This unit of competency applies to operators who are required to undertake work in which there is a risk of injury to themselves or any other person by falling from one level to another.

This unit of competency reflects the requirements of Part 4.4 of Work Health and Safety (WHS) Regulations 2011. While the regulations focus on the requirements for the Person Conducting a Business or Undertaking (PCBU), this unit is directed at the worker undertaking a specific job/work.

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 includes the use of fall-arrest equipment which complies with AS/NZS 1891 Series - Industrial fall-arrest systems and devices as part of this competency.

Some jurisdictions may require the holder of this unit to be licensed or certified and users should check with the relevant authorities.

Pre-requisite Unit

Nil

Competency Field

Work health and safety

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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 job requirements	1.1	Identify the job scope and location
		1.2	Review options for carrying out all or part of the job on the ground or on a solid construction
		1.3	Confirm the safe access to and exit from the work area where there is a risk of fall
		1.4	Obtain required authorisations for the work and verify hazard controls are functioning
		1.5	Check the adequacy of fall prevention devices, where appropriate
		1.6	Check the adequacy of work positioning systems, where appropriate
		1.7	Confirm methods of moving tools, equipment and materials to/from the work area are adequate
2	Use fall-arrest equipment in accordance with procedures	2.1	Select fall-arrest equipment needed
		2.2	Check condition of fall-arrest equipment
		2.3	Put on and adjust required fall-arrest equipment
		2.4	Check the emergency and rescue procedures in relation to the fall-arrest system
3	Undertake work in accordance with procedures	3.1	Safely access the work area
		3.2	Attach fall-arrest equipment to approved anchor as required
		3.3	Maintain the function of fall prevention devices and work positioning systems

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		3.4	Move tools, equipment and materials to work area as required
		3.5	Undertake the scoped work
		3.6	Remove all tools, equipment and materials from the work area
		3.7	Safely exit the work area
4	Complete the job	4.1	Take off, check, clean and put away fall-arrest equipment
		4.2	Close out authorisations for the work
		4.3	Complete any required documentation or records

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
- relevant state/territory regulation/guidelines/codes on fall protection

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- AS/NZS 1891 Series - Industrial fall arrest systems and devices
- AS 1657-2013 Fixed platforms, walkways and ladders – Design, construction and installation
- AS 2550 Set-2011 Cranes, hoists and winches – Safe use Set
- AS 2550.10-2006 Cranes, hoists and winches - Safe use – Mobile elevating work platforms
- AS/NZS1418 Set:2013 Cranes hoists and winches Set
- AS/NZS 4576:1995 Guidelines for scaffolding
- AS/NZS 1576 Series - Scaffolding
- AS/NZS 1892 Series - Portable ladders
- International Industrial Rope Access Trade Association (IRATA) International Code of Practice for industrial rope access

Required authorisations

Required authorisations include:

- work permits or such other controls as may be part of the work control system/procedures

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:

- permit control system
- emergency procedures
- work instructions
- standard operating procedures (SOPs)
- safe work method statements (SWMS)
- temporary instructions
- any similar instructions provided for the smooth running of the plant

Hazards

Hazards include one or more of the following:

- incomplete process isolations
- mechanical and electrical isolations not in place
- atmospheric testing incomplete and atmosphere unsafe
- smoke, darkness and heat
- heat, smoke, dust or other atmospheric hazards
- electricity
- gas
- gases and liquids under pressure
- structural hazards

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- 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

Unit Mapping Information

No equivalent unit

Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=d1287d36-dff4-4e9f-ad2c-9d6270054027

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Assessment Requirements for MSMWHS218 Control the risks of falls

Modification History

Release 1. New unit

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 on at least one (1) occasion:

- identify and check fall prevention devices and work positioning systems
- select, check, put on and use fall-arrest equipment
- undertake work which is at height while wearing fall-arrest equipment
- obtain required authorisation for the work
- complete any required documentation.

Knowledge Evidence

Evidence must be provided that demonstrates knowledge of:

- relevant procedures, hazard controls and work control/authorising systems
- methods of putting on and adjusting fall-arrest equipment
- symptoms of wear and other problems in fall-arrest equipment
- types and functions of fall prevention devices and work positioning systems.

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:
  - must include the use of fall-arrest equipment in a work area where a fall by a person from one level to another is reasonably likely to cause injury to the person or any other person
  - must include the conduct of a simple task (work), while within the work area
  - requires the work to be done under an appropriate authorisation which is a reasonable facsimile of industrial authorisations
  - requires the person to undertake all checks and complete all documentation that is required for working in a situation where a fall is reasonably likely.
- The work area used should be a reasonable facsimile of an industrial work area where there is a reasonable risk of a fall.

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- Assessment must sufficiently reflect 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.
- 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.
- The industry regards reassessment on a two year cycle as good practice.
- Persons seeking retraining/verification of competency and who have adequate evidence of having worked in a situation where a fall is reasonably likely and of applying current good practice in the last twelve months may be granted recognition of prior learning (RPL) for the practical assessment component.
- As a minimum, assessors must satisfy the Standards for Registered Training Organisations 2015 assessor requirements.
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Links

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MSMWHS300 Facilitate the implementation of WHS for a work group

Modification History

Release 1. Supersedes and is equivalent to MSAPMOHS300A Facilitate the implementation of OHS for a work group

Application

This unit of competency covers the skills and knowledge required to implement and monitor defined work health and safety (WHS) policies and procedures for a work group or area.

This unit of competency applies to people in a team leader or similar role and to people who are on a WHS committee.

It covers the ability to provide clear directions, information, instruction, training and appropriate supervision regarding the relevant state/territory WHS legislation, codes of practice, industry standards, workplace procedures and work instructions. It also covers the ability to coach team members to participate and contribute to WHS management issues.

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.

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

Pre-requisite Unit

MSMWHS200 Work safely

Competency Field

HSE

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Unit Sector

Elements and Performance Criteria

Elements describe the essential outcomes		Performance criteria describe the performance needed to demonstrate achievement of the element	
1	Communicate WHS information for co-workers in team	1.1	Accurately and clearly explain to the work group basic WHS rights, responsibilities and requirements
		1.2	Provide, in a readily accessible manner, information on the relevant organisation WHS policies, procedures and programs, and accurately and clearly explain them to the work group
		1.3	Regularly provide relevant information about identified hazards and the outcomes of risk assessment and risk control procedures, and accurately and clearly explain them to the work group
2	Coach co-workers in team	2.1	Establish mutual support groups, e.g. buddy system, to encourage effective development of individual and group competencies in WHS
		2.2	Provide personal encouragement and assistance to team members to contribute to the management of WHS at the workplace
3	Facilitate the consultative process	3.1	Deal with, and promptly resolve, issues raised through consultation or refer to the appropriate personnel for resolution in accordance with workplace procedures
		3.2	Seek input from work group on WHS issues and proposed changes to process, procedures or work place
		3.3	Encourage and use feedback from individuals and teams to identify and initiate improvements in the management of WHS
		3.4	Promptly inform the work group of the outcomes of consultation over WHS issues

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4	Implement and monitor organisation procedures for identifying hazards, and assessing and controlling risk	4.1	Implement and monitor WHS policies and procedures as defined by organisation
		4.2	Monitor existing risk control measures and report results regularly
		4.3	Access internal and external sources of relevant WHS information
		4.4	Evaluate and identify inadequacies in existing risk control measures in accordance with the hierarchy of control, and report to designated personnel
		4.5	Identify inadequacies in resource allocation for implementation of risk control measures and report to designated personnel
		4.6	Identify actual/potential inadequacies in procedures and report to designated personnel
		4.7	Identify actual/potential inadequacies in individual or team competency and report to designated personnel
5	Maintain and use WHS records	5.1	Accurately and legibly complete WHS records for work area, in accordance with workplace requirements for WHS records and legal requirements for the maintenance of records of workplace injury and disease
		5.2	Use aggregated information from the area WHS records to identify hazards and monitor risk control procedures within work area according to procedures and within scope of responsibilities and competencies

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.

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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

All operations to which this unit applies are subject to stringent health, safety and environment (HSE) requirements, which may be imposed through state/territory or federal legislation, and these must not be compromised at any time. Where there is an apparent conflict between performance criteria and HSE requirements, the HSE requirements take precedence.

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

Hazards

Hazards include one or more of the following:

- smoke, darkness and heat
- electricity
- gas and
- gases and liquids under pressure
- structural hazards

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- structural collapse
- industrial (machinery, equipment and product)
- equipment or product mass
- noise, rotational equipment or vibration
- working at heights, in restricted or confined spaces, or in environments subjected to heat, noise, dusts or vapours
- flammability and explosivity
- hazardous products and materials
- sharp edges, protrusions or obstructions
- slippery surfaces, spills or leaks
- limited head spaces or overhangs
- unauthorised personnel
- other hazards that might arise

Appropriate personnel

Appropriate personnel include one or more of the following:

- employer
- supervisor
- employees elected as WHS representatives
- other personnel with WHS responsibilities

WHS records

WHS records include one or more of the following:

- hazard and incident reports
- logs/logs sheets
- inspection/start up/shut down checklists
- injury reports
- maintenance records

WHS information sources

WHS information sources include one or more of the following:

- WHS legislation, codes of practice and Australian and International standards
- WHS regulators
- WorkSafe Australia Guides
- industry bodies
- internet sites, journals and newsletters
- manufacturer manuals
- material safety data sheets (MSDS) and registers
- organisation WHS policies and procedures
- internal risk assessments, job safety analyses (JSAs) and workplace inspections

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- internal hazard and incident reports

Unit Mapping Information

Release 1. Supersedes and is equivalent to MSAPMOHS300A Facilitate the implementation of OHS for a work group

Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=d1287d36-dff4-4e9f-ad2c-9d6270054027

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Assessment Requirements for MSMWHS300 Facilitate the implementation of WHS for a work group

Modification History

Release 1. Supersedes and is equivalent to MSAPMOHS300A Facilitate the implementation of OHS for a work group

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 the ability to:

- communicate using appropriate style and format for a range of stakeholders to:
  - promote and facilitate consultation and participation in the WHS processes
  - provide WHS information to work group
  - explain WHS procedures to work team members
  - report to designated personnel
  - seek input and feedback on WHS issues
  - undertake WHS issue resolution
- implement and monitor defined WHS activities for a work group or area
- encourage and assist the development of work group members
- evaluate and report on WHS procedures and practices
- participate in decisions which impact on WHS for the workgroup
- recognise a situation requiring action, including hazards, and take specified action to rectify or seek assistance as appropriate.

Knowledge Evidence

Must provide evidence that demonstrates knowledge relevant to their job sufficient to operate independently and to solve routine and non-routine problems, including:

- assessment of risk and implementation of risk control measures
- rights and responsibilities of employees under WHS legislation
- obligations of employers under the WHS legislation, including duty of care
- regulatory requirements for WHS information and consultation and processes and arrangements to meet these obligations
- regulatory requirements for WHS record keeping and reporting
- regulatory requirements for training and licensing relevant to WHS
- the hierarchy of control
- counselling, disciplinary and issue resolution processes.

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Assessment Conditions

- Where the candidate does not currently possess evidence of competency in MSMWHS200 Work safely, it may be co-assessed with this unit.
- 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 provide evidence of the ability to perform over the range of situations which might be expected to be encountered, including typical disruptions to normal, smooth work conditions
  - 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 a demonstration of communication of WHS information to a group and the use of appropriate consultation and participation from within that group
  - 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.

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Links

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MSMWHS400 Contribute to WHS management system

Modification History

Release 1. Supersedes and is equivalent to MSAPMOHS400A Contribute to OHS management system

Application

This unit of competency covers the skills and knowledge required to contribute to the work health and safety (WHS) management system.

The WHS management system will already have been developed by persons with the relevant specialist knowledge and skills.

This unit of competency applies to personnel who are required to implement, monitor and improve the WHS management system within a work group or area. It typically applies to a WHS specialist, or a team leader, supervisor or manager who has particular WHS responsibilities.

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

Pre-requisite Unit

Nil

Competency Field

Work health and safety

Unit Sector

Elements and Performance Criteria

Elements describe the essential outcomes	Performance criteria describe the performance needed to demonstrate achievement of the element
1 Develop and	1.1 Access current, relevant information on legislative and

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	review procedures for identifying hazards, and assessing and controlling risk		industry requirements for hazard identification and risk assessment and control
		1.2	Identify gaps in procedures
		1.3	Develop workplace procedures to meet requirements
		1.4	Involve relevant stakeholders in procedures development
		1.5	Review the procedures on a regular basis by consulting stakeholder groups for feedback
		1.6	Inform relevant stakeholders and other work groups of any changes and implement changes in the procedures
2	Develop and review incident procedures	2.1	Identify legal and organisation requirements
		2.2	Identify gaps in procedures
		2.3	Develop workplace procedures for dealing with incidents
		2.4	Review the procedures by consulting stakeholder groups for feedback
		2.5	Inform relevant stakeholders and other work groups of any changes and implement changes in the procedures
3	Implement and review training program from an WHS perspective	3.1	Identify the legal, organisational and practical requirements for WHS training
		3.2	Evaluate the workplace training program for WHS gaps
		3.3	Review the program on a regular basis by consulting stakeholders and work groups for feedback
		3.4	Take appropriate action to incorporate relevant feedback into the revised program
		3.5	Inform relevant work groups of any changes and implement changes in the WHS training program
4	Implement and review WHS	4.1	Identify the legal and organisational requirements for WHS records

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recording system	4.2	Evaluate the workplace WHS recording system for gaps
	4.3	Review the system on a regular basis by consulting stakeholders and work groups for feedback
	4.4	Incorporate relevant feedback into the revised system in consultation with stakeholders
	4.5	Inform relevant work groups of any changes and implement changes in the management of WHS records

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

All operations to which this unit applies are subject to stringent health, safety and environment (HSE) requirements, which may be imposed through state/territory or federal legislation, and these must not be compromised at any time. Where there is an apparent conflict between performance criteria and HSE requirements, the HSE requirements take precedence.

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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

Hazards Hazards include one or more of the following:

- slip/trip hazards
- PPE is unavailable or not functional
- emergency equipment is unavailable
- smoke, darkness and heat
- heat, smoke, dust or other atmospheric hazards
- electricity
- gas
- gases and liquids under pressure
- structural hazards
- structural collapse
- equipment is in safe condition with hazard controls functional
- 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, swarf and scrap
- slippery surfaces, spills or leaks
- extreme weather
- other hazards that might arise

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WHS records WHS records include one or more of the following:

- hazard and incident reports
- logs/logs sheets
- inspection/start-up/shutdown checklists
- injury reports
- maintenance records

WHS information sources WHS information will be accessed from internal and external sources, including one or more of:

- WHS legislation, codes of practice and Australian and International standards
- WHS regulators
- WorkSafe Australia Guides
- industry bodies
- internet sites, journals and newsletters
- manufacturer manuals
- material safety data sheets (MSDS) and registers
- organisation WHS policies and procedures
- internal risk assessments, job safety analyses (JSAs,) and workplace inspections
- internal hazard and incident reports

Unit Mapping Information

Release 1. Supersedes and is equivalent to MSAPMOHS400A Contribute to OHS management system

Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=d1287d36-dff4-4e9f-ad2c-9d6270054027

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Assessment Requirements for MSMWHS400 Contribute to WHS management system

Modification History

Release 1. Supersedes and is equivalent to MSAPMOHS400A Contribute to OHS management system

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 the ability to:

- communicate using appropriate style and format for a range of stakeholders to:
  - review WHS procedures, training program and recording system
  - provide information on the effectiveness of the WHS management system in minimising risk
  - consult and seek feedback
  - develop new procedures and improve existing procedures
  - inform work group or area about changes in WHS procedures
  - interact with the work group or area to ensure the WHS processes and procedures are applied
- analyse WHS information to:
  - identify gaps in procedures and training
  - identify improvements in procedures
  - incorporate feedback from stakeholders
  - ensure WHS procedures and improvements comply with the regulatory framework
- apply the hierarchy of control to recommend actions to minimise risk
- plan and implement appropriate review processes
- write clearly and unambiguously, including:
  - reports
  - draft policies and procedures
  - WHS information.

Knowledge Evidence

Evidence must be provided that demonstrates knowledge of:

- WHS responsibilities of employers and employees, including supervisors and contractors
- regulatory requirements for WHS, including:
  - duty of care responsibilities
  - information and consultation and processes and arrangements to meet these obligations

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  - record keeping and reporting
  - training and licensing relevant to WHS
- elements of a WHS management system, including:
  - principles and practices of effective WHS management and risk control
  - sources and types if information that provide realistic information on the performance of the WHS management system
  - techniques for analysing WHS data, including simple statistical analysis and graphing of trends all relevant workplace procedures
  - types and application of review processes including review of written reports, analysis of data, performance appraisal and auditing
  - WHS issue resolution processes.

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 is best done from a report and/or folio of evidence drawn from:
  - a single project which provides sufficient evidence of the requirements of all the elements and performance criteria
  - multiple smaller projects which together provide sufficient evidence of the requirements of all the elements and performance criteria.
- A third-party report, or similar, may be needed to testify to the work done by the individual, particularly when the project has been done as part of a project team.
- 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.
- 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.

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Links

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MSMWHS401 Assess risk

Modification History

Release 1. Supersedes and is equivalent to MSAPMOHS401A Assess risk

Application

This unit of competency covers the skills and knowledge required to identify hazards and operability problems and then analyse them by hazard analysis techniques to assess risk.

This unit of competency is a specialist unit requiring technical knowledge and is suitable for plant technicians and people in similar roles.

A team with a broad knowledge of the system and its operation will carry out the analysis. It is expected that the risk assessment processes are already defined for the enterprise and that the risk acceptance criteria have already been established. The team will be steered by engineering experts or risk assessment specialists in the industry.

This unit of competency applies to workers who take an active role in a hazard and operability study (HAZOP) or similar methodology. They are not expected to lead the HAZOP. This unit is not restricted to HAZOPs and may be applied to other methodologies requiring similar competency. The risk assessment should be consistent with AS/NZS ISO 31000:2009 Risk management – Principles and guidelines.

Team members will contribute their understanding of the process and particularly the operational aspects, and then carry out whatever tasks are assigned to them by the analysis team.

The aim of this unit of competency is to apply a methodical examination of the system and its elements to identify hazards and the states or conditions where there may be loss of control of the hazard and the resultant consequences.

The technique can be applied at any stage of a project/process life cycle.

Although hazard identification should be the main focus, operability problems should be identified to the extent that they have the potential to lead to a breakdown in hazard controls resulting in a health, safety or environmental (HSE) violation or have a negative impact on profitability.

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This unit of competency applies to an individual working as part of a team or group.

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

Pre-requisite Unit

Nil

Competency Field

Work health and safety

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 hazards and potential operability problems	1.1	Contribute to the compiling of a system description of all the machinery, equipment, operations, products and materials relevant to the everyday working procedures of the facility
		1.2	Contribute to the compiling of a checklist containing process parameters (primary key words) and guide words (secondary key words) relevant to the system
		1.3	Identify hazards, existing control measures and potential operability problems or breakdowns in control measures using the compiled system descriptions and the checklist
2	Assess impact of risk and determine alternative strategies	2.1	Screen for causes of deviations and establish consequences
		2.2	Determine alternative strategies for action in relation to each deviation within the range of competency and responsibility
		2.3	Review, clarify and/or analyse risk information to determine its relevance and reliability depending upon

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			the task assigned, level of competency and area of responsibility
3	Assess risk information against established risk criteria in risk management plan	3.1	Check risk acceptance criteria for any changes over past period
		3.2	Compare risk information against risk acceptance criteria and procedures to assess acceptability of risk
		3.3	Liaise with other internal departments to assess impact on business, if applicable
		3.4	Document findings according to company policies and procedures
4	Develop a risk register	4.1	Develop a risk assessment chart for each system studied containing deviation, cause, consequence, control measures and action
		4.2	Develop action plan for implementation of control measures, including any changes to procedures
		4.3	Establish or review the procedures by consulting relevant/different work groups.
		4.4	Inform relevant work groups of any changes and implement, within area of responsibility, changes in the procedures
		4.5	Monitor effectiveness of the control measures, including revised procedures
5	Establish and maintain procedures for identifying hazards, and assessing and controlling risk	5.1	Identify and develop procedures for routine hazard identification, assessment and control of risks
		5.2	Address identification of all hazards at the planning, design and evaluation stages of any changes in the workplace to ensure that new hazards are not created by the proposed changes
		5.3	Develop and maintain procedures for selection and implementation of risk control measures in accordance with the hierarchy of control

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5.4	Identify inadequacies in existing risk control measures in accordance with the hierarchy of control and, within area of responsibility, promptly provide resources enabling implementation of new measures

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

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- temporary instructions
- any similar instructions provided for the smooth running of the plant

Hazards

Hazards include one or more of the following:

- 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
- limited head spaces or overhangs
- extreme weather
- other hazards that might arise

Non-routine problems

Non-routine problems must be resolved by applying operational knowledge to develop new solutions, either individually or in collaboration with relevant experts to:

- determine problems needing action
- determine possible fault causes
- develop solutions to problems which do not have a known solution
- follow through items initiated until final resolution has occurred
- report problems outside area of responsibility to designated person

Non-routine problems include one or more of the following:

- incidents with a potential for injury

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- fires and explosions
- chemical spills
- bomb scares

Operational knowledge includes one or more of the following:

- procedures
- training
- technical information, such as journals and engineering specifications
- remembered experience
- relevant knowledge obtained from appropriate people

Risk assessment methodology

Risk assessment methodology must:

- enhance the understanding of risk and how it may be reduced
- permit the modelling and evaluation of a wide range of failure modes
- enable the analysis to be carried out in a manner that is auditable, repeatable and verifiable
- be usable by other staff
- be appropriate to the system operating in the given domain
- give valid results from the type and quantity of data that is available
- be appropriate for the particular life cycle phase at which it is to be applied
- be supported by standard proformas for the technique
- have a rational technical basis, typically through reference to national or international standards, Defence standards or published reference books

This is not restricted to HAZOP methodology; other methodologies requiring similar competency may be used.

Process parameters

Specific process parameters (primary key words) relevant to the system will include three (3) or more of:

- flow
- temperature
- pressure
- relief
- instrumentation
- sampling
- addition
- safety

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- reaction
- reduce (grind and crush)
- absorb
- isolate
- vent
- start-up
- composition
- phase
- level
- corrosion
- erosion
- services
- utilities
- maintenance/maintain
- inserting
- purging
- contamination
- separate (settle, filter and centrifuge)
- mix
- drain
- shutdown

Unit Mapping Information

Release 1. Supersedes and is equivalent to MSAPMOHS401A Assess risk

Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=d1287d36-dff4-4e9f-ad2c-9d6270054027

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Assessment Requirements for MSMWHS401 Assess risk

Modification History

Release 1. Supersedes and is equivalent to MSAPMOHS401A Assess risk

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:

- apply a systematic risk assessment methodology
- identify and interpret information from a range of internal and external sources
- interpret hazard and probability data to determine risk profiles
- communicate with a range of stakeholders to:
  - identify risks and causes
  - identify consequences and assess impact of risks
  - plan and implement changes to procedures
- plan and implement control measures
- apply operational knowledge to non-routine problems
- monitor and evaluate outcomes of control measures and procedures and make improvements as appropriate
- document findings and complete reports.

Knowledge Evidence

Evidence must be provided that demonstrates knowledge of:

- day-to-day operations of the facility, including:
  - machinery, equipment, operations, products and materials
  - process parameters (primary key words) and guide words (secondary key words)
  - workplace systems and the importance of critical procedures
- hazard identification and control measures
- how hazard controls may break down
- quantitative risk assessment, such as hazard analysis (HAZAN)
- risks and how they may be reduced
- key features of a systematic risk assessment methodology, including:
  - what makes it auditable, repeatable, verifiable and usable by other staff
  - how it can be used for modelling and evaluation of a wide range of failure modes
  - available data and how it can give valid results
  - its rational technical basis
- analysis systems appropriate to the system operating in the given domain and appropriate for the particular life cycle phase at which it is to be applied.

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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 is best done from a report and/or folio of evidence drawn from:
  - a single project which provides sufficient evidence of having been a member of a HAZOP (or similar) team and meeting the requirements of all the elements and performance criteria
  - multiple smaller projects which together provide sufficient evidence of the requirements of all the elements and performance criteria.
- A third-party report, or similar, may be needed to testify to the work done by the individual, particularly when the project has been done as part of a project team.
- 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.
- 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

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MSMWHS503 Maintain WHS management system

Modification History

Release 1. Supersedes and is equivalent to MSAPMOHS503A Maintain the workplace OHS management system

Application

This unit of competency covers the skills and knowledge required to maintain and improve an established work health and safety (WHS) management system.

The WHS management system will already have been developed by persons with the relevant specialist knowledge and skills.

This unit of competency applies to personnel with a specialised responsibility for maintaining the WHS management system. Depending on the organisation this might be an owner, manager, team leader, WHS officer/manager, a technician with particular WHS responsibilities, or someone in a similar role. The competency applies within the area of managerial responsibility, which may be an entire organisation or department of an organisation.

The work will be carried out with the support of other team members.

Management must be aware that, while employees have WHS responsibilities, line managers are ultimately responsible, under both WHS legislation and common law duty of care, for the safety of the workplace, including ensuring that employees comply with documented work procedures. This legislation includes general WHS legislation as well as that for hazardous substances, dangerous goods and major hazard sites.

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

Pre-requisite Unit

Nil

Competency Field

Work health and safety

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Unit Sector

Elements and Performance Criteria

Elements describe the essential outcomes		Performance criteria describe the performance needed to demonstrate achievement of the element	
1	Manage WHS information in the workplace	1.1	Take action to ensure that requirements for WHS record keeping and reporting are implemented according to workplace procedures and legislative requirements
		1.2	Access sources of WHS information and evaluate for application to the workplace
		1.3	Collect and collate data and information to provide information to managers and stakeholders on WHS requirements, trends and risk controls
2	Support implementation of WHS management system	2.1	Determine WHS priorities in consultation with appropriate managers and stakeholders
		2.2	Identify WHS training needs for implementation and maintenance of the WHS management system
		2.3	Develop action plans taking account of priorities and training needs
		2.4	Monitor achievement of action plans and update plans accordingly
3	Support WHS participative arrangements	3.1	Ensure WHS information and documentation is understandable and accessible to all
		3.2	Promptly address WHS issues that may arise within area of authority or refer to appropriate person
		3.3	Provide information about the outcomes of WHS consultation in a manner that is accessible to all
4	Collect data to evaluate currency	4.1	Identify, in consultation with stakeholders and, as required expert advisors, internal data and information

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	of WHS management system		that provides relevant and reliable information on the performance of the WHS management system
		4.2	Conduct workplace inspections on a regular basis.
		4.3	Identify workplace WHS implications of any changes to legislation
		4.4	Identify any WHS implications to proposed changes to the workplace
		4.5	Take action to arrange a WHS management system audit
5	Analyse data and information to identify areas for improvement	5.1	Assess compliance of WHS management system with WHS legislation
		5.2	Analyse information collected to identify areas for improvement.
		5.3	Consult with stakeholders, key personnel and, as required, WHS advisors
		5.4	Document and communicate outcomes of analysis to key personnel and stakeholders in an easily understood format
		5.5	Recognise limits of own expertise and seek appropriate advice
6	Initiate and maintain improvements	6.1	Determine priorities for WHS in consultation with stakeholders
		6.2	Develop a WHS plan with responsibilities and timeframes and validate the plan with stakeholders
		6.3	Identify and source resources required for implementation of plan
		6.4	Monitor achievement against plan
		6.5	Monitor effectiveness of modifications to WHS management system on an ongoing basis incorporating feedback from stakeholders

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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

All operations to which this unit applies are subject to stringent health, safety and environment (HSE) requirements, which may be imposed through state/territory or federal legislation, and these must not be compromised at any time. Where there is an apparent conflict between performance criteria and HSE requirements, the HSE requirements take precedence.

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

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WHS records WHS records include one or more of the following:

- hazard and incident reports
- logs/logs sheets
- inspection/start-up/shutdown checklists
- injury reports
- maintenance records

WHS information sources WHS information sources include one or more of the following:

- WHS legislation, codes of practice and Australian and International standards
- WHS regulators
- Safe Work Australia Guides
- industry bodies
- internet sites, journals and newsletters
- manufacturer manuals
- material safety data sheets (MSDS) and registers
- organisation WHS policies and procedures
- internal risk assessments, job safety analyses (JSAs) and workplace inspections
- internal hazard and incident reports

Unit Mapping Information

Release 1. Supersedes and is equivalent to MSAPMOHS503A Maintain the workplace OHS management system

Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=d1287d36-dff4-4e9f-ad2c-9d6270054027

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Assessment Requirements for MSMWHS503 Maintain WHS management system

Modification History

Release 1. Supersedes and is equivalent to MSAPMOHS503A Maintain the workplace OHS management system

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 the ability to:

- communicate using appropriate style and format for a range of stakeholders to:
  - evaluate the WHS management system
  - provide information on the effectiveness of the WHS management system in minimising risk
  - identify, plan, implement and monitor improvements
  - convey WHS and other complex/technical information
  - consult and seek input/feedback
  - interact with the workforce to maintain the process that comprise the WHS management system
- analyse WHS data to identify areas for improvement
- create and manage documentation, including:
  - WHS records
  - minutes of meetings and consultations
  - workplace inspection checklists, audits and reports
- write clearly and unambiguously, including:
  - reports
  - policies and procedures
  - WHS information
- develop WHS management system improvement plans
- apply a quality improvement process to implement and monitor improvements
- identify WHS training needs.

Knowledge Evidence

Must provide evidence that demonstrates knowledge relevant to their job sufficient to fulfil their job role, including:

- WHS responsibilities of employers, employees, supervisors and contractors, including duty of care responsibilities

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- regulatory requirements for WHS information and consultation and processes and arrangements to meet these obligations
- regulatory requirements for WHS record keeping and reporting
- regulatory requirements for training and licensing relevant to WHS
- elements of a WHS management system and principles and practices of effective WHS management and risk control
- barriers to implementation of WHS, including language and literacy, cultural diversity of workforce and workplace culture in relation to WHS
- sources and types if information that provide realistic information on the performance of the WHS management system
- techniques for analysing WHS data, including simple statistical analysis and graphing of trends
- types of internal and external change that may impact on WHS and WHS compliance
- audit and inspection processes.

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 is best done from a report and/or folio of evidence drawn from:
  - a single project which provides sufficient evidence of the requirements of all the elements and performance criteria
  - multiple smaller projects which together provide sufficient evidence of the requirements of all the elements and performance criteria.
- A third-party report, or similar, may be needed to testify to the work done by the individual, particularly when the project has been done as part of a project team.
- 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.
- 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.

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Links

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MSMWHS510 Manage risk

Modification History

Release 1. Supersedes and is equivalent to MSAPMOHS510A Manage risk

Application

This unit of competency covers the skills and knowledge required to develop, implement and evaluate an organisation-wide risk management plan. Risk management is defined as coordinated activities to direct and control an organisation with regard to risk. It incorporates an assessment of all potential risks facing the organisation and the approach, management components and resources to be applied to the management of risk. It focuses on avoiding/eliminating critical incidents rather than on recovering from a disaster.

This unit of competency applies to managers or work health and safety (WHS) specialists who are developing or maintaining a risk management plan for their site or organisation.

This unit of competency is based on *AS/NZS ISO 31000:2009 Risk management - Principles and guidelines* and can be applied to any aspect of risk in an organisation. When applied to health, safety and environment (HSE) risks the business and other risks consequent on them are also considered.

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.

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

Pre-requisite Unit

Nil

Competency Field

Work health and safety

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Unit Sector

Elements and Performance Criteria

Elements describe the essential outcomes		Performance criteria describe the performance needed to demonstrate achievement of the element	
1	Develop risk management plan	1.1	Analyse and interpret strategic position and policy on risk management
		1.2	Identify risk management context and potential areas of risk
		1.3	Analyse organisational capability to manage risk and achieve objectives
		1.4	Generate a comprehensive list of risks that could affect the achievement of the organisation's objectives
		1.5	Establish or review risk management policies
		1.6	Evaluate the requirement for training/education for all groups and individuals
		1.7	Access external specialist assistance as required
		1.8	Establish appropriate risk assessment techniques
		1.9	Consult stakeholders in the development of the plan
2	Implement risk management plan	2.1	Define, in consultation with stakeholders, the criteria used to evaluate the significance of risk
		2.2	Evaluate and prioritise risks for treatment
		2.3	Determine and select the most appropriate options for treating risks
		2.4	Implement and monitor risk treatment plan
		2.5	Document strategies for risk treatment options
3	Evaluate risk	3.1	Establish procedures to regularly review risk

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management plan		management activities
	3.2	Ensure stakeholders have input to the review
	3.3	Examine activities that do not achieve their objective/performance outcomes to determine cause
	3.4	Identify targets for improvement and update plan
	3.5	Establish evaluation of risk management as a key component of all projects/activities

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
- *AS/NZS ISO 31000:2009 Risk management - Principles and guidelines*
- award and organisation agreements and relevant industrial instruments

All operations to which this unit applies are subject to stringent HSE requirements, which may be imposed through state or federal legislation, and these must not be compromised at any time. Where there is an apparent conflict between performance criteria and HSE requirements, the HSE requirements take precedence.

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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

External specialist assistance

External specialist assistance includes:

- any group or individual who has the expertise to assist the organisation to deal with any event/incident which may occur

Risk

Risk includes one or more of the following:

- injury or disease
- environmental factors
- product failure
- financial/economic loss/failure
- damage to property/plant/equipment
- industrial disputes
- professional incompetence
- natural disasters
- security failure, including criminal or terrorist activities
- equipment/system failures
- political events

Unit Mapping Information

Release 1. Supersedes and is equivalent to MSAPMOHS510A Manage risk

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Links

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Assessment Requirements for MSMWHS510 Manage risk

Modification History

Release 1. Supersedes and is equivalent to MSAPMOHS510A Manage risk

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:

- select and apply techniques to develop a risk management plan
- identify and interpret information from a range of internal and external sources
- communicate with a range of stakeholders to:
  - identify and assess impact
  - prioritise risks
  - develop and evaluate treatment options
  - evaluate risk management activities
  - evaluate organisational capability and identify training needs
- plan, implement and monitor risk management activities
- write reports, policies and procedures.

Knowledge Evidence

Must provide evidence that demonstrates knowledge relevant to their job sufficient to operate independently and to solve routine and non-routine problems, including:

- regulatory framework
- legal requirements for operating the business relevant to the area of responsibility
- the legal implications of deeming identified risks as acceptable
- internal or external audit methods
- focus group processes
- risk analysis processes
- criteria for evaluation and prioritisation.

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 is best done from a report and/or folio of evidence drawn from:

- a single project which provides sufficient evidence of the requirements of all the elements and performance criteria

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- multiple smaller projects which together provide sufficient evidence of the requirements of all the elements and performance criteria.

A third-party report, or similar, may be needed to testify to the work done by the individual, particularly when the project has been done as part of a project team.

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.

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

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MSMWHS601 Develop WHS management system

Modification History

Release 1. Supersedes and is equivalent to MSAPMOHS601A Establish workplace OHS management system

Application

This unit of competency covers the skills and knowledge required to develop the work health and safety (WHS) management system at senior management level, in order to meet legislative requirements and to ensure that the workplace is, so far as is practicable, safe and without risks to the health of employees.

This unit of competency applies to managers and senior technicians who have a WHS responsibility. It typically applies when a WHS management system is being developed, and could be used for a complete review of an existing WHS management system. Develop means to develop initially, or to further develop/improve or maintain an existing WHS management system.

This unit of competency describes WHS requirements applicable for those with managerial responsibilities for development and ongoing management of the WHS management system within the organisation. This may be as a worker or as an owner of a business.

This unit of competency applies within an area of managerial responsibility, which may be an entire organisation or department of an organisation. Roles and responsibilities will vary from organisation to organisation.

This unit of competency applies to organisations where the WHS system with related policies, procedures and programs may or may not be established. Where the WHS system is established, the unit will relate to the review of the WHS management system.

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

Pre-requisite Unit

Nil

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Competency Field

Work health and safety

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 needs of the WHS management system	1.1	Analyse the workplace to identify needs and workplace factors that may impact on the design of the WHS management system
		1.2	Clarify WHS legal obligations in relation to the specific workplace
		1.3	Review relevant standards relating to WHS management system
		1.4	Identify links with other functional areas and management systems
		1.5	Seek input from stakeholders on the design of the WHS management system
2	Review the framework for the WHS management system	2.1	Ensure WHS responsibilities and duties are documented and accountability processes are in place
		2.2	Identify and source financial and human resources required for the operation of the WHS management system
		2.3	Review WHS policies and procedures
		2.4	Ensure implications of any proposed changes to the workplace are identified and addressed
		2.5	Recognise limits of own professional expertise and consult WHS specialists as necessary

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3	Develop participative arrangements for the management of WHS	3.1	Develop appropriate participative processes with employees and their representatives in accordance with relevant WHS legislation and industry standards
		3.2	Provide information on WHS to employees in a format that is readily accessible and understandable
		3.3	Promptly and effectively deal with and resolve issues raised through participation and consultation in accordance with procedures for issues resolution
		3.4	Provide information about the outcomes of participation and consultation in a manner accessible to employees
4	Develop risk management processes	4.1	Develop procedures for hazard, incident and injury reporting and investigation
		4.2	Develop procedures for hazard identification, hazard analysis and risk assessment
		4.3	Develop hazard specific risk control measures currently in place to meet legal requirements and minimise risk as far as is practicable
		4.4	Develop procedures for ongoing control of identified hazards and monitoring of the effectiveness of controls
5	Develop and maintain a WHS training program	5.1	Conduct a WHS training needs assessment for the work group that takes account of legislative requirements, internal policies and procedures, skills of work group and risk control requirements
		5.2	Develop and implement a WHS training program to identify and fulfil employee's WHS training needs as a part of the organisation general training program.
		5.3	Coordinate with relevant training experts as necessary
6	Develop and maintain a system for WHS records	6.1	Identify and address legal requirements for record keeping and reporting
		6.2	Identify and access sources of WHS information

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		6.3	Take actions to ensure that records are accurately completed, collected and stored
7	Implement WHS systems, strategies and plans	7.1	Determine WHS priorities in consultation with managers and taking account of participative arrangements in the workplace
		7.2	Develop plans for the implementation of WHS strategies
		7.3	Monitor and update plans for achievement as required

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:

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- 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

Hazards

Hazards include one or more of the following:

- smoke, darkness and heat
- electricity
- gas and
- gases and liquids under pressure
- structural hazards
- structural collapse
- industrial (machinery, equipment and product)
- equipment or product mass
- noise, rotational equipment or vibration
- working at heights, in restricted or confined spaces, or in environments subjected to heat, noise, dusts or vapours
- flammability and explosivity
- hazardous products and materials
- sharp edges, protrusions or obstructions
- slippery surfaces, spills or leaks
- limited head spaces or overhangs
- unauthorised personnel
- other hazards that might arise

WHS information sources

WHS information sources include one or more of:

- WHS legislation, codes of practice and Australian and International standards
- WHS regulators
- WorkSafe Australia Guides
- industry bodies
- internet sites, journals and newsletters
- manufacturer manuals
- material safety data sheets (MSDS) and registers
- organisation WHS policies and procedures
- internal risk assessments, job safety analyses (JSAs) and workplace

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inspections
- internal hazard and incident reports

Unit Mapping Information

Release 1. Supersedes and is equivalent to MSAPMOHS601A Establish workplace OHS management system

Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=d1287d36-dff4-4e9f-ad2c-9d6270054027

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Assessment Requirements for MSMWHS601 Develop WHS management system

Modification History

Release 1. Supersedes and is equivalent to MSAPMOHS601A Establish workplace OHS management system

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 the ability to:

- ascertain requirements for development of WHS management system
- develop appropriate documentation, including:
  - policies and procedures
  - training material
- identify and source financial and human resources
- develop training strategy to address WHS training requirements
- consult and negotiate to implement or review policies and procedures
- apply a systematic process to planning and implementation or review of WHS systems.

Knowledge Evidence

Must provide evidence that demonstrates knowledge relevant to their job sufficient to fulfil their job role, including:

- regulatory requirements relevant to role, including duty of care responsibilities
- requirements for WHS record keeping and reporting
- principles and practices of effective WHS management and risk control
- elements and requirements of a WHS management system
- other management systems requiring interface or integration with the WHS management system
- barriers to implementation of WHS, including language and literacy, cultural diversity of workforce and workplace culture in relation to WHS
- relevant organisation procedures, practices, codes and signs/symbols
- organisations goals, targets and measures
- hierarchy of control.

Assessment Conditions

- The unit should be assessed holistically and the judgement of competence based on a holistic assessment of the evidence.

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- The collection of performance evidence is best done from a report and/or folio of evidence drawn from:
  - a single project which provides sufficient evidence of the requirements of all the elements and performance criteria
  - multiple smaller projects which together provide sufficient evidence of the requirements of all the elements and performance criteria.
- A third-party report, or similar, may be needed to testify to the work done by the individual, particularly when the project has been done as part of a project team.
- 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.
- 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

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MSMWJ201 Use high pressure water jetting equipment

Modification History

Not applicable.

Application

This unit of competency covers the skills and knowledge required to use high pressure water jetting equipment under the supervision of a competent operator. The job may be to clean, prepare, abrade, cut or demolish concrete, steel or other plant, equipment, vessels or infrastructure.

Work will be undertaken on a worksite which may be a client's site or a site belonging to the organisation.

This work is undertaken in compliance with *AS/NZS 4233.1:2013 High pressure water jetting systems - Safe operation and maintenance*, or its authorised replacement and *Safe Work Australia Guide for Managing Risks from High Pressure Water Jetting December 2013*, its state/territory equivalent (where one exists) or the authorised replacement.

AS/NZS 4233.1:2013 High pressure water jetting systems - Safe operation and maintenance defines this work as work with:

(*a*) *High pressure water jetting systems pressurised by positive displacement pumps with an output capability greater than 800 bar litres per minute*.

(*b*) *High pressure water jetting operations carried out at pressures above 800 bar litres per minute and includes jetting operations involving the use of additives and abrasives*.

(*c*) *Water jetting operations below 800 bar litres per minute where there is a foreseeable risk of injury to operators*.

It further defines:

High pressure water jetting systems with an output capability greater than 800 bar litres per minute and less than 5600 bar litres per minute are identified as Class A and systems with an output capability in excess of 5600 bar litres per minute are identified as Class B.

This unit covers an operator who is competent to operate under supervision. For a competent operator who is to operate independently *MSMWJ301A Operate a high pressure water jetting system should be used.*

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AS/NZS 4233.1:2013 High pressure water jetting systems - Safe operation and maintenance states that 'Verification of competency or refresher training on high pressure water jetting operations shall be carried out and documented at appropriate intervals not exceeding two years to ensure the continued competency of operators'.

Competence may also be required in a range of other units of competency in order to be allowed to operate on site under supervision.

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

Pre-requisite Unit

Nil

Competency Field

Operations

Unit Sector

Surface finishing

Elements and Performance Criteria

Elements describe the essential outcomes		Performance criteria describe the performance needed to demonstrate achievement of the element	
1	**Prepare for work**	1.1	Obtain required job details as part of a team
		1.2	Complete site access and work control requirements
		1.3	Identify site hazards and required hazard controls
		1.4	Select, check, load and prepare required equipment under supervision
		1.5	Participate in toolbox meeting or similar, as required
		1.6	Complete required pre-work paperwork

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2	**Complete on-site preparation**	2.1	Check correct equipment is at job/site location
		2.2	Check job location, scope and requirements
		2.3	Obtain required permits/work authorities, as directed
		2.4	Follow job-related documentation as directed
		2.5	Check that the required quantity and quality of water is available
		2.6	Check available waste disposal is adequate for all wastes generated by the job
		2.7	Report any deviations from requirements to supervisor
		2.8	Recognise and control job and site-specific hazards
3	**Set up job as directed**	3.1	Prepare worksite to comply with job and safety requirements
		3.2	Set up and prepare water jetting equipment
		3.3	Liaise with other work groups as appropriate to ensure safe and efficient operation
		3.4	Establish appropriate means of communication between operators
		3.5	Ensure hazard controls are operational and adequate
		3.6	Check and use required personal protective equipment
		3.7	Test emergency shut-off and request equipment be repaired if not functional.
4	**Undertake water jetting job as directed**	4.1	Start up high pressure water jetting system
		4.2	Communicate with supervisor and any other operators as required by job
		4.3	Operate equipment as directed
		4.4	Monitor the job, conditions and equipment

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		4.5	Maintain required line of sight
		4.6	Monitor hazards and activate emergency stop, as required
		4.7	Recognise problems and resolve routine problems
		4.8	Complete required paperwork
5	**Complete job**	5.1	Shut down equipment
		5.2	Clean job site and equipment
		5.3	Service and inspect equipment as directed
		5.4	Store equipment, as directed
		5.5	Restock running spares and consumables, as directed
		5.6	Report any issues or incidents according to procedures
		5.7	Participate in debrief
		5.8	Complete required paperwork

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.

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Applicable legislation, regulations, standards and codes of practice include one or more of the following:

- *AS/NZS 4233.1:2013 High pressure water jetting systems - Safe* operation *and maintenance*
- *Safe Work Australia Guide for Managing Risks from High Pressure Water Jetting December 2013*
- work health and safety (WHS) legislation, codes of practice and guidance material
- environmental regulations and guidelines
- other relevant government legislation, regulations and codes
- Australian and other standards
- other relevant codes and 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:

- work instructions
- standard operating procedures (SOPs)
- Guidance Notes
- temporary instructions
- any similar instructions provided for the smooth running of the plant

All operations to which this unit applies are subject to stringent health, safety and environment (HSE) requirements, which may be imposed through federal or state/territory legislation, and these must not be compromised at any time. Where there is an apparent conflict between performance criteria and HSE requirements, the HSE requirements take precedence.

Site access requirements

Site access requirements include one or more of the following:

- site induction
- other requirements if defined by the site or client

Work control requirements

Work control requirements include one or more of the following:

- permits or other authorities to enter site, commence and continue

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work
- other requirements if defined by the site or client

Equipment

Equipment includes one or more of the following:

- pumps
- pump motors/drivers
- hoses
- guns, lances and nozzles
- personal protective equipment (PPE)
- other equipment, plant, tools and hazard control devices required for the job

Routine problems

Routine problems must be resolved by applying known solutions.

Routine problems are predictable and include one or more of the following:

- equipment not operating at desired conditions
- equipment malfunction
- jobs is not as described in the scope

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.

Equipment operation

Equipment operation includes one or more of the following:

- manually on the worksite
- using local controller on the worksite
- using the control system which may be remote from the jetting equipment

Job paperwork

Job paperwork is electronic, hard copy or other format, and includes one or more of the following:

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- tool storeroom records
- equipment loaded records
- maintenance/inspection records/checklists
- tag out/reports for failed equipment
- hazard controls
- work control system requirements.

PPE

PPE includes one or more of the following:

- PPE as specified in:
  - Section 4 *AS/NZS 4233.1:2013 High pressure water jetting systems - Safe operation and maintenance, or its authorised replacement*
  - *Section 5 Safe Work Australia Guide for Managing Risks from High Pressure Water Jetting December 2013,* or its authorised replacement
- medical alert card as specified in Section 9.5 of *AS/NZS 4233.1:2013 High pressure water jetting systems - Safe operation and maintenance, or its authorised replacement*
- other equipment as required

Communication

Communication includes one or more of the following:

- hand signals
- radio head phones
- other means appropriate to the job/site

Hazards

Hazards include one or more of the following:

- hazards from high/extreme pressure and or velocity
- hazards arising from the materials used in/generated by the water jetting job
- hose set-up and hose run
- hazards specific to the site/process
- slip/trip hazards
- PPE is unavailable or not functional
- emergency equipment is unavailable
- electricity
- gas
- gases and liquids under pressure
- structural hazards
- structural collapse

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- equipment is in safe condition with hazard controls functional
- industrial (machinery, equipment and product)
- equipment or product mass
- noise, rotational equipment or vibration
- limited head spaces or overhangs
- working where the possibility of a fall is reasonably likely, in restricted or confined spaces, or in environments subjected to heat, noise, dusts or vapours, smoke or other atmospheric hazards
- flammability and explosivity
- hazardous products and materials
- unauthorised personnel
- sharp edges, protrusions or obstructions, swarf and scrap
- slippery surfaces, spills or leaks
- extreme weather
- other hazards that might arise

Hazard controls Hazard controls include one or more of the following:

- controls required by *AS/NZS 4233.1: 2013 High pressure water jetting systems - Safe operation and maintenance, or its authorised replacement*
- controls identified in the relevant permits to work
- use of PPE
- other appropriate controls consistent with the hierarchy of control

Unit Mapping Information

Release 1. Supersedes and is equivalent to MSAPMWJ201A Use high pressure water jetting equipment

Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=d1287d36-dff4-4e9f-ad2c-9d6270054027

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Assessment Requirements for MSMWJ201 Use high pressure water jetting equipment

Modification History

Not applicable.

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 under supervision demonstrate the ability to:

- assemble and operate equipment which meets the requirements of a Class B system as defined by *AS/NZS 4233.1:2013 High pressure water jetting systems - Safe operation and maintenance* or its authorised replacement, including:
  - at least one (1) gun operation AND
  - at least one (1) of:
    - pipe cleaning
    - heat exchanger/tube cleaning
    - surface preparation
    - vessel (interior) cleaning using a cleaning head AND
  - use at least two (2) different types of nozzles/heads.

Knowledge Evidence

Must provide evidence that demonstrates knowledge relevant to their job sufficient to operate under routine only supervision and to solve routine problems, including:

- system controls required by *AS/NZS 4233.1: 2013 High pressure water jetting systems - Safe operation and maintenance,* or its authorised replacement
- possible injuries resulting from high pressure water jets and appropriate responses
- basic principles of how high pressure water jetting nozzles/jets work
- basic understanding of reaction force and its determination
- preoperational checks and set-up
- relevant communication systems, including hand signals
- types of waste generated and procedures for safe disposal.

Assessment Conditions

- Competency must be achieved before performing this work under supervision. Therefore this unit will typically be assessed off the job. Where assessment is undertaken on the job appropriate supervision and safety precautions must be provided.

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- The unit should be assessed holistically and the judgement of competence shall be based on a holistic assessment of the evidence.
- While water jetting equipment meeting the requirements of Class B must be used, the plant/job requiring water jetting may be a realistic simulation of an industry plant/application/situation.
- All appropriate tools, equipment, paper work/permits and safety gear required will be available and used as required. The assessor should act as the supervisor, giving such directions as would be provided on the job. It is expected that one assessor would not observe a group larger than ten persons at the one assessment event.
- Off-the-job assessment must sufficiently reflect 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.
- Assessment in a simulated environment should use evidence collected from one or more of:
  - walk-throughs
  - demonstration of skills
  - industry-based case studies/scenarios
  - ‘what ifs’.
- Knowledge evidence will be collected independently of the above practical assessment and may use workbooks, written assessments, interviews (provided a record is kept) or other methods.
- 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.
- Persons seeking verification of competence/retraining to comply with *AS/NZS 4233.1:2013 High pressure water jetting systems - Safe operation and maintenance*, or its authorised replacement must meet the same evidence requirements as above.
- 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

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MSMWJ301 Operate a high pressure water jetting system

Modification History

Release 1. Supersedes and is equivalent to MSAPMWJ301A Operate a high pressure water jetting system

Application

This unit of competency covers the skills and knowledge required to operate a high pressure water jetting system which may be used to clean, prepare, abrade, cut or demolish concrete, steel or other plant, equipment, vessels or infrastructure.

This work is undertaken in compliance with AS/NZS 4233.1:2013 High pressure water jetting systems - Safe operation and maintenance, or its authorised replacement and Safe Work Australia Guide for Managing Risks from High Pressure Water Jetting December 2013, its state/territory equivalent (where one exists) or the authorised replacement.

Work will be undertaken on a worksite which may be a client's site or a site belonging to the organisation.

AS/NZS 4233.1:2013 High pressure water jetting systems - Safe operation and maintenance defines this work as work with:

(a) High pressure water jetting systems pressurised by positive displacement pumps with an output capability greater than 800 bar litres per minute.

(b) High pressure water jetting operations carried out at pressures above 800 bar litres per minute and includes jetting operations involving the use of additives and abrasives.

(c) Water jetting operations below 800 bar litres per minute where there is a foreseeable risk of injury to operators.

It further defines:

High pressure water jetting systems with an output capability greater than 800 bar litres per minute and less than 5600 bar litres per minute are identified as Class A and systems with an output capability in excess of 5600 bar litres per minute are identified as Class B.

The competent operator as defined by this unit of competency will be able to operate independently. Operators who are not competent to operate independently should be competent to operate under supervision (refer to MSMWJ201 Use high pressure water jetting equipment).

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Operators will also need to be competent in a range of other units of competency in order to be allowed to operate independently on site. Work will be undertaken on a worksite which may be a client's site or a site belonging to the organisation.

AS/NZS 4233.1:2013 High pressure water jetting systems - Safe operation and maintenance states that 'Verification of competency or refresher training on high pressure water jetting operations shall be carried out and documented at appropriate intervals not exceeding two years to ensure the continued competency of operators'.

No other 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	**Prepare for work**	1.1	Obtain required job details
		1.2	Complete site access and work control requirements
		1.3	Identify site hazards and required hazard controls
		1.4	Select, check and load equipment and personal protective equipment (PPE) required for the job
		1.5	Ensure the adequate quantity of fuel and other consumables have been filled/loaded
		1.6	Lead tool box meeting as required
		1.7	Check work team members comply with site and job

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			competency requirements
		1.8	Complete required pre-work paperwork
2	**Complete on-site preparation**	2.1	Check job scope, location and requirements with job owner
		2.2	Obtain required permits/work authorities
		2.3	Interpret and follow job related documentation
		2.4	Check that the required quantity and quality of water is available
		2.5	Check available waste disposal is adequate for all wastes generated by the job
		2.6	Recognise and control job and site-specific hazards
		2.7	Communicate needs back to base
3	**Set up job in accordance with procedures**	3.1	Prepare worksite to comply with job and safety requirements
		3.2	Inspect, assemble, check and flush water jetting equipment to procedures
		3.3	Liaise with other work groups as appropriate to ensure safe and efficient operation
		3.4	Identify competency of other team members and the degree and means of required supervision
		3.5	Establish appropriate means of communication between operators
		3.6	Ensure hazard controls are operational and adequate
		3.7	Liaise with job owner to confirm details, as required
		3.8	Select key equipment variables required for job
		3.9	Check and use required PPE
		3.10	Test emergency shut-off and have equipment repaired if not functional

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4	**Undertake water jetting job in accordance with procedures**	4.1	Start up high pressure water jetting system
		4.2	Communicate with/supervise other operator as required by job
		4.3	Operate equipment to meet job requirements
		4.4	Monitor hazards and activate emergency stop, as required
		4.5	Maintain required line of sight
		4.6	Monitor the job, conditions and equipment
		4.7	Recognise and diagnose problems
		4.8	Take appropriate action to respond to problems
		4.9	Complete required paperwork
5	**Complete job in accordance with procedures**	5.1	Shut down equipment
		5.2	Advise job owner of job completion and any relevant observations during the job
		5.3	Clean job site and equipment
		5.4	Service and inspect equipment
		5.5	Store equipment
		5.6	Restock running spares and consumables
		5.7	Report any issues or incidents, as required
		5.8	Debrief relevant stakeholders
		5.9	Complete required paperwork

Foundation Skills

This section describes those language, literacy, numeracy and employment skills that are essential to performance.

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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.

Applicable legislation, regulations, standards and codes of practice include one or more of the following:

- *AS/NZS 4233.1:2013 High pressure water jetting systems - Safe operation and maintenance*
- work health and safety (WHS) legislation, codes of practice and guidance material
- environmental regulations and guidelines
- other relevant government legislation, regulations and codes
- Australian and other standards
- other relevant codes and 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:

- work instructions
- standard operating procedures (SOPs)
- safe work method statements (SWMS)
- temporary instructions
- any similar instructions provided for the smooth running of the job

All operations to which this unit applies are subject to stringent health, safety and environment (HSE) requirements, which may be imposed through federal or state/territory legislation, and these must not be compromised at any time. Where there is an apparent conflict between performance criteria and HSE requirements, the HSE requirements take precedence.

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Site access requirements

Site access requirements include one or more of the following:

- site induction
- other site/client requirements

Equipment

Equipment includes one or more of the following:

- pump
- pump motor/driver
- hoses
- guns, lances and nozzles
- PPE
- other equipment, plant, tools and hazard control devices required by the job

Equipment variables

Equipment variables include:

- nozzle type
- pressure/flow required
- additives to be used
- other items under the control of the operator

Non-routine problems

Non-routine problems must be resolved by applying operational knowledge to develop new solutions, either individually or in collaboration with relevant experts to:

- determine problems needing action
- determine possible fault causes
- develop solutions to problems which do not have a known solution
- follow through items initiated until final resolution has occurred
- report problems outside area of responsibility to designated person

Non-routine problems are unexpected problems, or variations of previous problems and include one or more of the following:

- equipment not operating at desired conditions
- equipment malfunction
- jobs is not as described in the scope
- job owner wants a scope variation
- other unplanned event or unexpected consequence from a planned event

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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

Job owner

Job owner includes one or more of the following:

- client or their representative
- site manager or their representative
- production manager or their representative
- maintenance manager or their representative
- other person with prime responsibility for the plant/plant area which is the subject of the water jetting job

Equipment operation

Equipment operation includes one or more of the following:

- manually on the worksite
- using local controller on the worksite
- using the control system which may be remote from the jetting equipment
-

Job paperwork

Job paperwork is electronic, hard copy or other format, and includes one or more of the following:

- tool storeroom records
- equipment loaded records
- maintenance/inspection records/checklists
- tag out/reports for failed equipment
- hazard controls
- work control system requirements

PPE

PPE includes one or more of the following:

- PPE as specified in:
- Section 4 *AS/NZS 4233.1:2013 High pressure water jetting systems - Safe operation and maintenance,* or its authorised replacement
- Section 5 *Safe Work Australia Guide for Managing Risks from High Pressure Water Jetting December 2013,* or its authorized replacement
- medical alert card as specified in Section 9.5 of *AS/NZS 4233.1:2013*

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High pressure water jetting systems - Safe operation and maintenance, or its authorised replacement
- other equipment as required

Communication

Communication includes one or more of the following:

- hand signals
- radio headphones
- other means appropriate to the job/site

Hazards

Hazards include one or more of the following:

- hazards from high/extreme pressure and or velocity
- hazards arising from the materials used in/generated by the water jetting job
- hose set up and hose run
- hazards specific to the site/process
- slip/trip hazards
- PPE is unavailable or not functional
- emergency equipment is unavailable
- electricity
- gas
- gases and liquids under pressure
- structural hazards
- structural collapse
- equipment is in safe condition with hazard controls functional
- industrial (machinery, equipment and product)
- equipment or product mass
- noise, rotational equipment or vibration
- limited head spaces or overhangs
- working where there is a reasonable risk of a fall, in restricted or confined spaces, or in environments subjected to heat, noise, dusts, vapours, smoke, or other atmospheric hazards
- flammability and explosivity
- hazardous products and materials
- unauthorised personnel
- sharp edges, protrusions or obstructions, swarf and scrap
- slippery surfaces, spills or leaks
- extreme weather
- other hazards that might arise

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Hazard controls Hazard controls include one or more of the following:

- controls required by *AS/NZS 4233.1:2013 High pressure water jetting systems - Safe operation and maintenance, or its authorised replacement*
- controls identified in the relevant permits to work
- use of PPE
- other appropriate controls consistent with the hierarchy of control

Unit Mapping Information

Release 1. Supersedes and is equivalent to MSAPMWJ301A Operate a high pressure water jetting system

Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=d1287d36-dff4-4e9f-ad2c-9d6270054027

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Assessment Requirements for MSMWJ301 Operate a high pressure water jetting system

Modification History

Release 1. Supersedes and is equivalent to MSAPMWJ301A Operate a high pressure water jetting system

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:

- assemble and operate equipment which meets the requirements of a Class B system as defined by *AS/NZS 4233.1:2013 High pressure water jetting systems - Safe operation and maintenance* or its authorised replacement, including:
  - at least one (1) gun operation AND
  - at least one (1) of:
    - pipe cleaning
    - heat exchanger/tube cleaning
    - surface preparation
    - vessel (interior) cleaning using a cleaning head AND
  - use at least two (2) different types of nozzles/heads.
  -

Knowledge Evidence

Must provide evidence that demonstrates knowledge relevant to their job sufficient to operate independently and to solve routine and non-routine problems, including:

- hazards and hazard controls specific to the operation of water jetting equipment
- principles of operation and science (physics) of water jetting equipment and its component items
- types and duties of water jetting equipment and its component plant items
- correct methods of starting up, shutting down, operating and controlling water jetting equipment and its component plant items by type and duty
- relevant communication systems, including hand signals
- operational parameters and limits
- types and causes of known problems for water jetting and its components
- corrective action appropriate to the problem cause
- the importance of monitoring and controlling job conditions
- methods, purpose (and appropriate corrective action) of monitoring job variables
- situations requiring:
  - activating emergency stop

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- stopping work until a situation is resolved
- raising alarm (when, how, who to)
- responding to injury.
-

Assessment Conditions

- Competency must be achieved before performing this work unsupervised. Therefore this unit will typically be assessed off the job. Where assessment is undertaken on the job appropriate supervision and safety precautions must be provided.
- The unit should be assessed holistically and the judgement of competence shall be based on a holistic assessment of the evidence.
- While water jetting equipment meeting the requirements of Class B must be used, the plant/job requiring water jetting may be a realistic simulation of an industry plant/application/situation.
- All appropriate tools, equipment, paper work/permits and safety gear required will be available and used as required. The assessor should only intervene if it would be unsafe to allow the assessment to continue. It is expected that one assessor would not observe a group larger than ten persons at the one assessment event.
- Off-the-job assessment must sufficiently reflect 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.
- Assessment in a simulated environment should use evidence collected from one or more of:
  - walk-throughs
  - demonstration of skills
  - industry-based case studies/scenarios
  - ‘what ifs’.
- Knowledge evidence will be collected independently of the above practical assessment and may use workbooks, written assessments, interviews (provided a record is kept) or other methods.
- 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.
- Persons seeking verification of competence/retraining to comply with AS/NZS 4233.1:2013 High pressure water jetting systems - Safe operation and maintenance or its authorised replacement must meet the same evidence requirements as above.
- 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.

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Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=d1287d36-dff4-4e9f-ad2c-9d6270054027

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MSMWJ302 Operate a drain cleaning system

Modification History

Release 1 - New unit

Application

This unit of competency covers the skills and knowledge required to operate a drain cleaning system which may be used to clean, unblock or remove debris from a closed drain (pipe) or open channel drainage system.

It covers stormwater, wastewater (domestic type sewerage), trade waste/industrial, publically and privately owned drains and related infrastructure. This work is undertaken in compliance with AS/NZS 4233.1:2013 High pressure water jetting systems - Safe operation and maintenance and Section 6.8 Lancing, pipe and drain cleaning, or its authorised replacement, and Safe Work Australia Guide for Managing Risks from High Pressure Water Jetting (December 2013), its state/territory equivalent (where one exists) or the authorised replacement.

Work will be undertaken on a worksite which may be a client's site or may be public space.

Operators will also need to be competent in a range of other units of competency in order to be allowed to operate independently on site.

AS/NZS 4233.1:2013 High pressure water jetting systems - Safe operation and maintenance states that 'Verification of competency or refresher training on high pressure water jetting operations shall be carried out and documented at appropriate intervals not exceeding two years to ensure the continued competency of operators'.

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

Pre-requisite Unit

Nil

Competency Field

Operations

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Unit Sector

Elements and Performance Criteria

Elements describe the essential outcomes		Performance criteria describe the performance needed to demonstrate achievement of the element	
1	**Prepare for work**	1.1	Obtain required job details
		1.2	Complete site access and work control requirements
		1.3	Identify site hazards and required hazard controls
		1.4	Select, check and load equipment and personal protective equipment (PPE) required for the job
		1.5	Ensure the adequate quantity of fuel and other consumables have been filled/loaded
		1.6	Lead tool box meeting as required
		1.7	Check work team members comply with site and job competency requirements
		1.8	Complete required pre-work paperwork
2	**Complete on-site preparation**	2.1	Check job scope, location and requirements with job owner/contact person
		2.2	Obtain required permits/work authorities
		2.3	Interpret and follow job-related documentation
		2.4	Define work area and check exclusion zones
		2.5	Check direction of flow and walk the route (upstream/downstream)
		2.6	Complete pre-start on vehicle and check emergency stop
		2.7	Check available waste disposal is adequate for all wastes generated by the job
		2.8	Recognise and control job and site-specific hazards

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3	**Set up job in accordance with procedures**	3.1	Prepare worksite to comply with job and safety requirements
		3.2	Inspect, assemble and check drain cleaning equipment to procedures
		3.3	Liaise with other work groups as appropriate to ensure safe and efficient operation
		3.4	Establish appropriate means of communication between operators and ensure correct positioning of personnel
		3.5	Ensure hazard controls are operational and adequate
		3.6	Check and use required personal protective equipment
4	**Undertake drain cleaning job in accordance with procedures**	4.1	Start up drain cleaning system
		4.2	Communicate with/supervise other operator as required by job
		4.3	Operate equipment to meet job requirements
		4.4	Monitor hazards and activate emergency stop, as required
		4.5	Maintain required line of sight
		4.6	Monitor the job, conditions and equipment
		4.7	Recognise and diagnose problems
		4.8	Take appropriate action to respond to problems
		4.9	Complete required paperwork
5	**Complete job in accordance with procedures**	5.1	Shut down equipment
		5.2	Ensure the appropriate disposal of all waste
		5.3	Reinstate assets (e.g. access hole covers)
		5.4	Advise job owner/contact person of job completion and any relevant observations during the job
		5.5	Clean job site and equipment

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5.6 Service and inspect equipment

5.7 Store equipment

5.8 Contact depot for further work instructions

5.9 Report any issues or incidents, as required

5.10 Debrief relevant stakeholders

5.11 Complete required paperwork

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:

- *AS/NZS 4233.1:2013 High pressure water jetting systems - Safe operation and maintenance*
- 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

Procedures include one or more of the following:

- work instructions
- standard operating procedures (SOPs)

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- safe work method statements (SWMS), job safety and environment analysis (JSEA) or job hazard analysis (JHA)
- temporary instructions
- any similar instructions provided for the smooth running of the job

All operations to which this unit applies are subject to stringent HSE requirements, which may be imposed through federal or state/territory legislation, and these must not be compromised at any time. Where there is an apparent conflict between Performance Criteria and HSE requirements, the HSE requirements take precedence.

Site access requirements

Site access requirements include one or more of the following:

- site induction
- other site/client requirements

Equipment

Equipment includes one or more of the following:

- positive displacement pump
- pump motor/driver
- hoses
- nozzles
- starter bars
- anti-withdrawal devices
- easement reel
- PPE
- other equipment, plant, tools and hazard control devices required by the job

Equipment variables

Equipment variables include:

- hose type
- nozzle type
- pressure/flow required
- other items under the control of the operator

Non-routine problems

Non-routine problems must be resolved by applying operational knowledge to develop new solutions, either individually or in collaboration with relevant experts to:

- determine problems needing action
- determine possible fault causes

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- develop solutions to problems which do not have a known solution
- follow through items initiated until final resolution has occurred
- report problems outside area of responsibility to designated person

Non-routine problems are unexpected problems, or variations of previous problems and include one or more of the following:

- equipment not operating at desired conditions
- equipment failure
- burst hose/loss of pressure
- damaged/broken pipes
- injury
- motor vehicle incident
- emergency response
- job is not as described in the scope
- job owner wants a scope variation
- other unplanned event or unexpected consequence from a planned event

Operational knowledge includes one or more of:

- procedures
- training
- technical information, such as journals and engineering specifications
- remembered experience
- relevant knowledge obtained from appropriate people

Job owner

Job owner includes one or more of the following:

- client or their representative
- site manager or their representative
- production manager or their representative
- maintenance manager or their representative
- other person with prime responsibility for the plant/plant area which is the subject of the drain cleaning job

Equipment operation

Equipment operation includes one or more of the following:

- manually on the worksite
- using local controller on the worksite
- using the control system which may be remote from the drain cleaning equipment

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Monitor

Monitoring drain cleaning operation includes monitoring one or more of the following:

- outlet points
- hose length
- hose resistance
- strainer basket
- debris
- CCTV

Job paperwork

Job paperwork is electronic, hard copy or other format, and includes one or more of: the following

- tool storeroom records
- site/drain plans
- equipment loaded records
- maintenance/inspection records/checklists
- tag out/reports for failed equipment
- hazard controls
- work control system requirements

PPE

PPE includes one or more of the following:

- PPE as specified in:
  - Section 4 *AS/NZS 4233.1:2013 High pressure water jetting systems - Safe operation and maintenance*, or its authorised replacement
  - Section 5 *Safe Work Australia Guide for Managing Risks from High Pressure Water Jetting December 2013*, or its authorised replacement
- medical alert card as specified in Section 9.5 of *AS/NZS 4233.1:2013 High pressure water jetting systems - Safe operation and maintenance*, or its authorised replacement
- other equipment as required

Communication

Communication includes one or more of the following:

- hand signals
- radio headphones
- other means appropriate to the job/site

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Hazards

Hazards include one or more of the following:

- hazards from high pressure and/or velocity
- hazards arising from the materials used in/generated by the drain cleaning job
- hose set up and hose run
- hazards specific to the site/process
- slip/trip hazards
- PPE is unavailable or not functional
- emergency equipment is unavailable
- electricity
- gas (e.g. methane and hydrogen sulphide)
- structural collapse
- equipment is in safe condition with hazard controls functional
- industrial (machinery, equipment and product)
- noise, rotational equipment or vibration
- working in restricted or confined spaces, or in environments subjected to heat, noise, dusts, vapours or darkness
- hazardous products and materials
- unauthorised personnel
- sharp edges, protrusions or obstructions, swarf and scrap
- sharps (e.g. syringes)
- slippery surfaces, spills or leaks
- extreme weather
- other hazards that might arise

Hazard controls

Hazard controls include one or more of the following:

- controls required by *AS/NZS 4233.1:2013 High pressure water jetting systems - Safe operation and maintenance, or its authorised replacement*
- controls identified in the relevant permits to work
- use of PPE
- other appropriate controls consistent with the hierarchy of control

Unit Mapping Information

No equivalent unit

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Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=d1287d36-dff4-4e9f-ad2c-9d6270054027

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Assessment Requirements for MSMWJ302 Operate a drain cleaning system

Modification History

Release 1 - New unit

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 the ability to:

- assemble and operate drain cleaning equipment which meets the requirements of a Class B system as defined by *AS/NZS 4233.1:2013 High pressure water jetting systems - Safe operation and maintenance* or its authorised replacement, including:
  - at least one (1) drain cleaning operation AND
  - at least one (1) drain clearing (choke/blockage) operation AND
  - at least one (1) of:
    - closed drain cleaning
    - open channel drain cleaning, AND
  - use at least two (2) different types of nozzles/heads.

Knowledge Evidence

Must provide evidence that demonstrates knowledge relevant to their job sufficient to operate independently and to solve routine and non-routine problems, including:

- hazards and hazard controls specific to the operation of drain cleaning equipment
- techniques and methodology of drain cleaning both for wastewater and stormwater drains
- principles of operation and science (physics) of drain cleaning equipment and its component items
- correct methods of starting up, shutting down, operating and controlling drain cleaning equipment and its component plant items by type and duty
- relevant communication systems, including hand signals
- operational parameters and limits
- types and causes of known problems for drain cleaning and its components
- corrective action appropriate to the problem cause
- the importance of monitoring and controlling job conditions
- methods, purpose (and appropriate corrective action) of monitoring job variables
- situations requiring:
  - activating emergency stop
  - stopping work until a situation is resolved
  - raising alarm (when, how, who to)

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- responding to injury.

Assessment Conditions

- Competency must be achieved before performing this work unsupervised. Therefore this unit will typically be assessed off the job. Where assessment is undertaken on the job, appropriate supervision and safety precautions must be provided.
- The unit should be assessed holistically and the judgement of competence shall be based on a holistic assessment of the evidence.
- While drain cleaning equipment meeting the requirements of Class B must be used, the plant/job requiring drain cleaning may be a realistic simulation of an industry plant/application/situation.
- All appropriate tools, equipment, paper work/permits and safety gear required will be available and used as required. The assessor should only intervene if it would be unsafe to allow the assessment to continue. It is expected that one assessor would not observe a group larger than ten persons at the one assessment event.
- Off-the-job assessment must sufficiently reflect 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.
- Assessment in a simulated environment should use evidence collected from one or more of:
  - walk-throughs
  - demonstration of skills
  - industry-based case studies/scenarios
  - ‘what ifs’.
- Knowledge evidence will be collected independently of the above practical assessment and may use workbooks, written assessments, interviews (provided a record is kept) or other methods.
- 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.
- Persons seeking verification of competence/retraining to comply with *AS/NZS 4233.1:2013 High pressure water jetting systems - Safe operation and maintenance* or its authorised replacement must meet the same evidence requirements as above.
- 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.

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Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=d1287d36-dff4-4e9f-ad2c-9d6270054027

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MSMWJ303 Operate a vacuum loading system

Modification History

Release 1 - New unit

Application

This unit of competency covers the skills and knowledge required to operate a vacuum loading system which may be used to move materials from an open space or vessel into a container. The materials moved may be solids (lump or particulate), liquids or gases/vapours. The materials may also be hazardous (chemical hazard, flammable/explosive, and particulate carbonaceous particulates).

Work will be undertaken on a worksite which may be a client's site or may be public space.

Operators will also need to be competent in a range of other units of competency in order to be allowed to operate independently on site.

No other 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	**Prepare for work**	1.1	Obtain required job details

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		1.2	Complete site access and work control requirements
		1.3	Identify site hazards and required hazard controls
		1.4	Select, check and load equipment and personal protective equipment (PPE) required for the job
		1.5	Ensure the adequate quantity of fuel and other consumables have been filled/loaded
		1.6	Check work team members comply with site and job competency requirements
		1.7	Complete required pre-work paperwork
2	**Complete on-site preparation**	2.1	Check job scope, location and requirements with job owner/contact person
		2.2	Obtain required permits/work authorities
		2.3	Lead tool box meeting as required
		2.4	Interpret and follow job-related documentation
		2.5	Define work area and check exclusion zones
		2.6	Ensure waste management, disposal and tracking procedures are in place
		2.7	Recognise and control job and site-specific hazards
3	**Set up job in accordance with procedures**	3.1	Prepare worksite to comply with job and safety requirements
		3.2	Inspect, assemble and check vacuum loading equipment to procedures
		3.3	Complete pre-start and check emergency stop
		3.4	Liaise with other work groups as appropriate to ensure safe and efficient operation
		3.5	Establish appropriate means of communication between operators and ensure correct positioning of personnel
		3.6	Ensure hazard controls are operational and adequate

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		3.7	Check and use required personal protective equipment
4	**Undertake vacuum loading job in accordance with procedures**	4.1	Start up vacuum loading system
		4.2	Communicate with/supervise other operator as required by job
		4.3	Operate equipment to meet job requirements
		4.4	Monitor hazards and activate emergency stop, as required
		4.5	Monitor the job, conditions and equipment
		4.6	Recognise and diagnose problems
		4.7	Take appropriate action to respond to problems
		4.8	Complete required paperwork
5	**Complete job in accordance with procedures**	5.1	Shut down equipment
		5.2	Ensure the appropriate disposal of all waste
		5.3	Advise job owner/contact person of job completion and any relevant observations during the job
		5.4	Clean job site and equipment
		5.5	Service and inspect equipment
		5.6	Store equipment
		5.7	Ensure vehicle is fit for transit (seal truck hose)
		5.8	Return to base, including refuelling vehicle en route
		5.9	Report any issues or incidents, as required
		5.10	Debrief relevant stakeholders
		5.11	Complete required paperwork

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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
- medical alert card

Procedures

Procedures include one or more of the following:

- work instructions
- standard operating procedures (SOPs)
- safe work method statements (SWMS), job safety and environment analysis (JSEA) or job hazard analysis (JHA)
- temporary instructions
- any similar instructions provided for the smooth running of the job

All operations to which this unit applies are subject to stringent HSE requirements, which may be imposed through federal or state/territory legislation, and these must not be compromised at any time. Where there is an apparent conflict between Performance Criteria and HSE requirements, the HSE requirements take precedence.

Site access requirements

Site access requirements include one or more of:

- site induction

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- other site/client requirements

Equipment

Equipment includes one or more of the following:

- vacuum pumps, including at least one of the following:
  - liquid piston ring
  - roots blower
  - vane pump
  - axial turbine
- separating systems, including at least one of:
  - bubble filter
  - bag house
  - cyclone
- antistatic hoses
- earth straps
- vacuum breakers/vacuum relief systems
- PPE
- other equipment, plant, tools and hazard control devices required by the job

Equipment variables

Equipment variables include:

- hose type/size
- pressure/vacuum
- additives to be used
- other items under the control of the operator

Non-routine problems

Non-routine problems must be resolved by applying operational knowledge to develop new solutions, either individually or in collaboration with relevant experts, to:

- determine problems needing action
- determine possible fault causes
- develop solutions to problems which do not have a known solution
- follow through items initiated until final resolution has occurred
- report problems outside area of responsibility to designated person

Non-routine problems are unexpected problems, or variations of previous problems and include one or more of the following:

- equipment not operating at desired conditions
- equipment failure

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- hose blocking
- cross contamination of product
- leaks/spills
- injury
- motor vehicle incident
- emergency response
- job is not as described in the scope
- job owner wants a scope variation
- other unplanned event or unexpected consequence from a planned event

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

Job owner

Job owner includes one or more of the following:

- client or their representative
- site manager or their representative
- production manager or their representative
- maintenance manager or their representative
- other person with prime responsibility for the plant/plant area which is the subject of the job

Equipment operation

Equipment operation includes one or more of the following:

- manually on the worksite
- using local controller on the worksite
- using the control system which may be remote from the vacuum loading equipment

Monitor

Monitoring vacuum loading operation includes monitoring one or more of the following:

- noise
- lump size
- correct revolutions per minute (RPM)
- vacuum pressure

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- blower temperature
- quantity of load
- truck weight
- leaks/spills
- pinch points
- operator fatigue/heat stress

Job paperwork Job paperwork is be electronic, hard copy or other format and includes one or more of the following:

- tool storeroom records
- site plans
- equipment loaded records
- maintenance/inspection records/checklists
- tag out/reports for failed equipment
- safety data sheets (SDS)
- hazard controls
- work control system requirements

Communication Communication includes one or more of the following:

- hand signals
- radio headphones
- other means appropriate to the job/site

Hazards Hazards include one or more of the following:

- hazards from vacuum
- hazards arising from the materials used in/generated by the vacuum loading job
- hose set up and hose run
- hazards specific to the site/process
- dangerous goods
- slip/trip hazards
- PPE is unavailable or not functional
- emergency equipment is unavailable
- static electricity
- gas
- structural collapse
- overhead/underground obstructions
- equipment in unsafe condition with hazard controls not functional
- industrial (machinery, equipment and product)

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- noise, rotational equipment or vibration
- working in restricted or confined spaces, or in environments subjected to heat, noise, dusts, vapours or darkness
- hazardous products and materials (particularly carbonaceous particulates)
- unauthorised personnel
- sharp edges, protrusions or obstructions, swarf and scrap
- sharps (e.g. syringes)
- slippery surfaces, spills or leaks
- extreme weather
- other hazards that might arise

Hazard controls Hazard controls include one or more of the following:

- controls identified in the relevant permits to work
- use of PPE
- use of emergency equipment
- other appropriate controls consistent with the hierarchy of control

Unit Mapping Information

No equivalent unit

Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=d1287d36-dff4-4e9f-ad2c-9d6270054027

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Assessment Requirements for MSMWJ303 Operate a vacuum loading system

Modification History

Release 1 - New unit

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 the ability to:

- assemble and operate vacuum loading equipment, including:
  - at least two (2) vacuum loading operations, AND
  - at least two (2) of:
    - solids
    - liquids
    - gases/vapour.
    -

Knowledge Evidence

Must provide evidence that demonstrates knowledge relevant to their job sufficient to operate independently and to solve routine and non-routine problems, including:

- hazards and hazard controls specific to the operation of vacuum loading equipment
- techniques and methodology of vacuum loading
- principles of operation and science (physics) of vacuum loading equipment and its component items
- correct methods of starting up, shutting down, operating and controlling vacuum loading equipment and its component plant items by type and duty
- relevant communication systems including hand signals
- operational parameters and limits
- types and causes of known problems for vacuum loading and its components
- corrective action appropriate to the problem cause
- the importance of monitoring and controlling job conditions
- methods, purpose (and appropriate corrective action) of monitoring job variables
- situations requiring:
  - activating emergency stop
  - stopping work until a situation is resolved
  - raising alarm (when, how, who to)
  - responding to injury.

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Assessment Conditions

- Competency must be achieved before performing this work unsupervised. Therefore this unit will typically be assessed off the job. Where assessment is undertaken on the job, appropriate supervision and safety precautions must be provided.
- The unit should be assessed holistically and the judgement of competence based on a holistic assessment of the evidence.
- While vacuum loading equipment must be used, the plant/job requiring vacuum loading may be a realistic simulation of an industry plant/application/situation.
- All appropriate tools, equipment, paper work/permits and safety gear required will be available and used as required. The assessor should only intervene if it would be unsafe to allow the assessment to continue. It is expected that one assessor would not observe a group larger than ten persons at the one assessment event.
- Off-the-job assessment must sufficiently reflect 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.
- Assessment in a simulated environment should use evidence collected from one or more of:
  - walk-throughs
  - demonstration of skills
  - industry-based case studies/scenarios
  - ‘what ifs’.
- Knowledge evidence will be collected independently of the above practical assessment and may use workbooks, written assessments, interviews (provided a record is kept) or other methods.
- 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.
- Persons seeking verification of competence/retraining must meet the same evidence requirements as above.
- Foundation skills are integral to competent performance of the unit and should not be assessed separately.
- The regulatory framework will be reflected in workplace policies and procedures and is not required to be independently assessed.
- 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

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MSS014009 Evaluate sustainability impact of a work or process area

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 evaluate the impact on sustainability of a work or process area or a stage of production or logistics. This may be undertaken as a stand-alone evaluation or as part of an overall evaluation of an entire process or a value chain.

This unit applies to establishing the overall or broad sustainability impact of processes undertaken in a work area and making recommendations for mitigating negative sustainability impacts. This includes evaluating the impact on products made, services offered, and use of sites by an organisation or value chain member. This unit covers only that portion of the value chain which is totally within the boundaries of the selected work area.

This unit applies to individuals with work area responsibilities, such as team leaders, maintenance staff, technicians and others who have some sustainability responsibility as part of their job.

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

Sustainable operations

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	**Evaluate the**	1.1	Identify the boundaries of the process or work area to be

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Elements describe the essential outcomes.		Performance criteria describe the performance needed to demonstrate achievement of the element.	
	work or process area		evaluated
		1.2	Identify all process steps within this area
		1.3	Identify the change which occurs at each step
		1.4	Define sustainability interactions at each step
2	**Determine sustainability issues for the work or process area**	2.1	Identify sustainability goals of enterprise as they relate to the process or work area
		2.2	Identify environmental sensitivities at each step in the process or work area
		2.3	Identify sustainability issues at each step in the process or work area
		2.4	Short-list high priority sustainability issues
3	**Analyse sustainability issues for the work or process area**	3.1	Determine root cause of each short-listed sustainability issue
		3.2	Determine possible solutions to root causes
		3.3	Estimate resources required for solutions and alternative mitigation strategies
		3.4	Rank solutions strategies by desirability
		3.5	Recommend preferred solutions in accordance with organisational procedures and protocols

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.

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Unit Mapping Information

Release 1. Supersedes and is equivalent to MSS014002 Evaluate sustainability impact of a work or process area.

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

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Assessment Requirements for MSS014009 Evaluate sustainability impact of a work or process area

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:

- evaluated at least 1 work or process area to determine high priority issues and solutions.

Knowledge Evidence

There must be evidence the candidate has knowledge of:

- sustainability process mapping
- process and changes which occur within the process
- environmental impacts of materials and energy used and emitted
- environmental sensitivities of all areas impacted by the work and process area and related areas where impact spreads beyond immediate area or containment
- root cause analysis and problem solving
- mitigation strategies relevant to work and process area
- simple cost benefit analyses techniques
- sustainability issues relevant to the work and process area
- standards and regulations relevant to work and process area including AS/NZS ISO 14001 Environmental Management Systems or its authorised replacement
- factors that could influence desirability ranking.

Assessment Conditions

Skills must have been demonstrated in the workplace or in a simulated environment that reflects workplace conditions, contingencies, facilities, equipment and resources.

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

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MSS015022 Develop strategies for more sustainable use of resources

Modification History

Release 1. Updated unit code. Range of conditions removed. Assessment requirements amended. Equivalent outcome.

Application

This unit describes the skills and knowledge to identify strategies for more sustainable uses of resources. The unit includes the identification of waste (muda) as part of a strategy for achieving better sustainability outcomes in a process as well as quantifying theoretical and actual resource (including energy) consumption.

This unit applies inside organisations and their value chains and specifically applies to the use of resources as part of an overall response to improving sustainability.

Where the carbon footprint (or water footprint or similar) of an organisation or value chain is known, the unit can be applied to developing strategies for the reduction of that footprint. A manager or technical specialist who has a major responsibility for sustainability as part of a broader work role would typically undertake this, or sustainability may be their primary work responsibility.

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

Sustainable operations

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	**Quantify**	1.1	Identify all significant resources used by process

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Elements describe the essential outcomes.		Performance criteria describe the performance needed to demonstrate achievement of the element.	
	resource consumption	1.2	Identify consumption measurements available for each resource
		1.3	Quantify consumption for each resource
2	**Quantify resource loss**	2.1	Determine theoretical consumption of each resource
		2.2	Compare theoretical consumption with actual consumption
		2.3	Quantify loss (emission) for each resource
3	**Recommend strategies for reducing muda (waste)**	3.1	Short-list high emission process steps
		3.2	Analyse process to identify emission steps or locations
		3.3	Determine root cause of emission
		3.4	Investigate methods for reducing emission
		3.5	Develop strategies and recommendations for improvement
4	**Prepare resources use audit report**	4.1	Identify purpose of report and key stakeholders
		4.2	Compile data, implications and recommendations
		4.3	Consult with stakeholders
		4.4	Write and present report

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.

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Unit Mapping Information

Release 1. Supersedes and is equivalent to MSS015002 Develop strategies for more sustainable use of resources.

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

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Assessment Requirements for MSS015022 Develop strategies for more sustainable use of resources

Modification History

Release 1. Updated unit code. 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:

- quantified significant resource consumption and emission using materials balancing for at least 1 organisation or value chain, including developing strategies for reducing emissions and preparing and presenting a resources use audit report.

Knowledge Evidence

There must be evidence the candidate has knowledge of:

- the concept of muda (waste) and muda categories
- muda reduction methods and strategies
- methods and uses of material balancing
- methods and uses of energy balancing
- methods of comparing theoretical with actual resource consumption
- methods for mapping processes and resources consumed
- methods of measuring actual resource usage
- AS/NZS ISO 14001 Environmental Management Systems or its authorised replacement.

Assessment Conditions

Skills must have been demonstrated in the workplace or in a simulated environment that reflects workplace conditions, contingencies, facilities, equipment and resources.

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

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MSS402001 Apply competitive systems and practices

Modification History

Release 1 - Supersedes and is equivalent to MSS402001A Apply competitive systems and practices

Application

This unit of competency covers the skills and knowledge required to implement basic improvement practices within an organisation using competitive systems and practices. The unit focuses on bringing together the basic concepts and the holistic application of these basic concepts and processes to operations. It would typically be carried out working as part of a team.

This unit applies to an individual in an organisation that has embarked on competitive systems and practices. The unit covers the skills and knowledge required to contribute to the competitive systems and practices processes and assumes that they are to be used within the scope of the individual's job and authority.

This unit requires the application of skills associated with planning and organising an individual's own role within the competitive systems and practices framework.

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

Pre-requisite Unit

Nil

Competency Field

Competitive systems and practices

Unit Sector

Not applicable

Elements and Performance Criteria

Elements describe the Performance criteria describe the performance needed to

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essential outcomes.		demonstrate achievement of the element.	
1	**Identify own place in the value chain**	1.1	Identify customers relevant to own work and their needs/requirements.
		1.2	Identify suppliers for own work.
		1.3	Identify value contributions along the chain.
		1.4	Identify and recommend methods of increasing own contribution to the value chain.
2	**Improve the product and process value**	2.1	Identify customer features/benefits in the product and process.
		2.2	Identify aspects of product and process which contribute to customer features/benefits.
		2.3	Identify aspects of product and process which do not contribute to customer benefits/features.
		2.4	Recommend methods of reducing waste and increasing features/benefits.
3	**Use competitive systems and practices**	3.1	Identify competitive systems and practices used in organisation and own work area.
		3.2	Apply practices appropriate for the job or process.
		3.3	Monitor the job/process and make adjustments to improve it in accordance with procedures.
		3.4	Identify own skill requirements and seek skill development, if required.

Foundation Skills

This section describes those required skills (language, literacy and numeracy) that are essential to performance.

Foundation skills essential to performance are explicit in the performance criteria of this unit of competency.

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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.

Competitive systems and practices include one or more of:

- lean operations
- agile operations
- preventative and predictive maintenance approaches
- statistical process control systems, including six sigma and three sigma
- Just in Time (JIT), kanban and other pull-related operations control systems
- supply, value, and demand chain monitoring and analysis
- 5S
- continuous improvement (kaizen)
- breakthrough improvement (kaizen blitz)
- cause/effect diagrams
- overall equipment effectiveness (OEE)
- takt time
- process mapping
- problem solving
- run charts
- standard procedures
- current reality tree.

Customers include one or more of:

- internal or external customers and should be sufficiently close to the individual's work as to be easily identifiable
- final customers used as the basis for the identification of value and waste.

Suppliers include one or more of:

- internal suppliers
- external suppliers sufficiently close to the individual's work as to be easily identifiable.

Procedures (written, verbal, visual, computer based, etc.) include one or more of:

- work instructions
- standard operating procedures (SOPs)
- safe work method statements
- formulas/recipes
- batch sheets
- temporary instructions

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- any similar instructions provided for the smooth running of the plant.

Unit Mapping Information

Release 1. Supersedes and is equivalent to MSS402001A Apply 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

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Assessment Requirements for MSS402001 Apply competitive systems and practices

Modification History

Release 1 - Supersedes and is equivalent to MSS402001A Apply competitive systems and practices

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 the ability to always apply competitive systems and practices to their own job to:

- identify own place in the value chain relevant to their job
- use competitive systems and practices tools and thinking
- recommend improvements in product and/or process.

Knowledge Evidence

Must provide evidence that demonstrates knowledge relevant to their job role sufficient to fulfil their job role under routine only supervision, including:

- customer requirements and their role in fulfilling them
- the value chain for products they make and their place in it
- identification of muda (waste) and its reduction.

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 operation of the workplace
  - 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 application of competitive systems and practice in own workplace
  - will typically include the use of appropriate tools, equipment and safety gear requiring demonstration of preparation, operation, completion and responding to problems.
- Assessment should occur in operational workplace situations.

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- 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.
- Assessors must satisfy the assessor competency requirements that are in place at the time of the assessment as set by the VET regulator.
- The assessor must demonstrate both technical competency and currency.
- Technical competence can be demonstrated through:
  - relevant VET or other qualification/Statement of Attainment AND/OR
  - relevant workplace experience
- Currency can be demonstrated through:
  - performing the competency being assessed as part of current employment OR
  - having consulted with an organisation providing relevant environmental monitoring, management or technology services about performing the competency being assessed within the last twelve months.

Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=5b04f318-804f-4dc0-9463-c3fb9a3fe998

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MSS402002 Sustain process improvements

Modification History

Release 1. Supersedes and is equivalent to MSS402002A Sustain process improvements

Application

This unit of competency covers the skills and knowledge required by an individual to prevent process improvements in their own work from slipping back to former practices or digressing to less efficient practices.

This unit applies to organisations implementing competitive systems and practices and continuous improvement. It covers the skills needed to ensure that process improvements are sustained and opportunities taken to suggest further improvements.

Improvement initiatives can be made by any of a number of methods and by teams or individuals. The unit assumes that desired levels of performance or quality are known to employees.

The unit can be applied to all areas of an organisation, including production, maintenance, logistics and office functions.

This unit requires the application of skills associated with problem solving, initiative and enterprise and self-management in order to understand implement and monitor improvement practices. It also requires the ability to identify and address personal skill gaps in order to manage own ability to implement change.

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

Pre-requisite Unit

Nil

Competency Field

Competitive systems and practices

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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	**Examine previous improvements**	1.1	Identify impact of previous process improvements to equipment, operations, services or products in own work area.
		1.2	Identify improvements where objectives have not been met.
2	**Implement corrective actions**	2.1	Identify corrective actions that can be taken by self on process improvements that have not met objectives.
		2.2	Obtain any required approvals.
		2.3	Identify any additional, personal skill gaps and seek skill development.
		2.4	Adopt improved processes.
3	**Check changes**	3.1	Identify claimed improvements.
		3.2	Identify methods of observing and measuring claimed improvements in own work area.
		3.3	Check if claimed improvements are occurring and report problems in accordance with procedures.
4	**Check for further improvements**	4.1	Look for areas of possible further improvement.
		4.2	Discuss further improvements with peers and supervisors.
		4.3	Take action to implement improvements in accordance with procedures.

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Foundation Skills

This section describes those required skills (language, literacy and numeracy) 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.

Competitive systems and practices include one or more of:	• lean operations • agile operations • preventative and predictive maintenance approaches • statistical process control systems, including six sigma and three sigma • Just in Time (JIT), kanban and other pull-related operations control systems • supply, value, and demand chain monitoring and analysis • 5S • continuous improvement (kaizen) • breakthrough improvement (kaizen blitz) • cause/effect diagrams • overall equipment effectiveness (OEE) • takt time • process mapping • problem solving • run charts • standard procedures • current reality tree.
Customers include one or more of:	• internal customers • external customers sufficiently close to the individual’s work as to be easily identifiable • final customers used as the basis for the identification of value and waste.
Suppliers include	• internal suppliers

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one or more of:	• external suppliers sufficiently close to the individual's work as to be easily identifiable.
Measuring improvements includes one or more of:	• personally taking measurements • arranging for measurements to be taken/made by appropriate personnel.
Procedures (written, verbal, visual, computer based, etc.) include one or any combination of:	• work instructions • standard operating procedures (SOPs) • safe work method statements • formulas/recipes • batch sheets • temporary instructions • any similar instructions provided for the smooth running of the plant.
Corrective actions to sustain improvements include one or more of:	• techniques for preventing mistakes by designing the operations process, equipment and tools so that an operation literally cannot be performed incorrectly (e.g. baka-yoke) • techniques that generate warning signals where a mistake is about to be performed (poka-yoke) • administrative techniques, such as procedure/work instruction changes • skilling techniques, such as training, mentoring, demonstration • process techniques, such as changing the process/conditions/variables.

Unit Mapping Information

Release 1. Supersedes and is equivalent to MSS402002A Sustain process improvements

Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=5b04f318-804f-4dc0-9463-c3fb9a3fe998

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Assessment Requirements for MSS402002 Sustain process improvements

Modification History

Release 1. Supersedes and is equivalent to MSS402002A Sustain process improvements

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 the ability to examine three (3) or more previous improvements, including one (1) or more where improvement objectives have not been met, and to:

- identify corrective actions that can be taken by self
- implement those corrective actions
- check whether the claimed improvements have occurred
- check for further improvements.

Knowledge Evidence

Must provide evidence that demonstrates knowledge relevant to their job role sufficient to fulfil their job role under routine only supervision, including:

- muda (waste)
- indicators of processes not delivering claimed improvements
- baka-yoke and poka-yoke techniques.

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 operation of the workplace
  - 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 actions to sustain process improvements in own workplace
  - will typically include the use of appropriate tools, equipment and safety gear requiring demonstration of preparation, operation, completion and responding to problems.
- Assessment should occur in operational workplace situations.

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- 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.
- Assessors must satisfy the assessor competency requirements that are in place at the time of the assessment as set by the VET regulator.
- The assessor must demonstrate both technical competency and currency.
- Technical competence can be demonstrated through:
  - relevant VET or other qualification/Statement of Attainment AND/OR
  - relevant workplace experience
- Currency can be demonstrated through:
  - performing the competency being assessed as part of current employment OR
  - having consulted with an organisation providing relevant environmental monitoring, management or technology services about performing the competency being assessed within the last twelve months.

Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=5b04f318-804f-4dc0-9463-c3fb9a3fe998

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MSS402010 Manage the impact of change on own work

Modification History

Release 1. Supersedes and is equivalent to MSS402010A Manage the impact of change on own work

Application

This unit of competency covers the skills and knowledge required by an individual to effectively manage the changes in their own work resulting from their organisation's implementation of competitive systems and practices.

This unit applies to an individual in an organisation implementing competitive systems and practices that affect the individual's own work. The unit includes the skills required to positively participate in ongoing and continuous change as it affects their work. The individual will be expected to deal with these changes as part of a team and to give feedback from their own perspective.

This unit requires the application of skills associated with problem solving, planning and organising and self-management for assessing and managing the impact of change on own work. This unit also requires the ability to seek information and feedback from team members on the impact of changes and suggested improvements.

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

Pre-requisite Unit

Nil

Competency Field

Competitive systems and practices

Unit Sector

Not applicable

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Elements and Performance Criteria

Elements describe the essential outcomes.		Performance criteria describe the performance needed to demonstrate achievement of the element.	
1	**Examine the impact of change on own work practices**	1.1	Identify competitive systems and practices relevant to changes in own work.
		1.2	Examine changes to work flow.
		1.3	Examine changes to equipment/process/physical environment.
		1.4	Examine changes to work relationship with team members and other teams.
		1.5	Examine changes to data collection needs.
		1.6	Examine changed work for impacts on health, safety and environment (HSE).
		1.7	Examine changes to quality requirements.
		1.8	Identify any additional individual skill needs.
		1.9	Identify other areas requiring assistance.
2	**Implement change**	2.1	Review changes which may have an adverse impact with team leader.
		2.2	Adopt changes to individual work practice.
		2.3	Seek assistance in gathering/processing data, as required.
		2.4	Implement the data collection/processing and take actions on resulting information in accordance with procedures.
		2.5	Seek assistance/training to meet needs caused by change.
3	**Implement continuous improvement**	3.1	Critically examine all changes.
		3.2	Identify impacts of changes both up and down the immediate value stream.

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3.3 Identify areas for improvement.

3.4 Make recommendations for improvement in accordance with procedures.

Foundation Skills

This section describes those required skills (language, literacy and numeracy) 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.

Competitive systems and practices include one or more of:	• lean operations • agile operations • preventative and predictive maintenance approaches • statistical process control systems, including six sigma and three sigma • Just in Time (JIT), kanban and other pull-related operations control systems • supply, value, and demand chain monitoring and analysis • 5S • continuous improvement (kaizen) • breakthrough improvement (kaizen blitz) • cause/effect diagrams • overall equipment effectiveness (OEE) • takt time • process mapping • problem solving • run charts • standard procedures • current reality tree.
Impact of change	• elements being undertaken individually or as part of a team

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may include one or more of:	• seeking assistance from team leaders for areas outside the employee's range of responsibility and authority.
Procedures (written, verbal, visual, computer based, etc.) include one or more of:	• work instructions • standard operating procedures (SOPs) • safe work method statements • formulas/recipes • batch sheets • temporary instructions • any similar instructions provided for the smooth running of the plant.
Gathering and monitoring performance data include one or more of:	• manual gathering by individual employees through charts, tally sheets or keypad/board entry • automatic collection through software, such as SCADA software, ERP systems, MRP and proprietary systems.
Continuous improvement (kaizen) includes evaluation of one or more of:	• time required • resources used • resultant quality • other aspects relevant to the process.
Stages where value stream actions may occur include one or more of:	• sales outlet/representative • information gathering, data analysis and research • product design • raw material sourcing • intermediate processing • final assembler/collation/preparation • support services (e.g. accounting, finance and legal) • storage and delivery to customer • after market support.

Unit Mapping Information

Release 1. Supersedes and is equivalent to MSS402010A Manage the impact of change on own work

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Links

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Assessment Requirements for MSS402010 Manage the impact of change on own work

Modification History

Release 1. Supersedes and is equivalent to MSS402010A Manage the impact of change on own 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 and include the ability, for one (1) or more changes, to:

- identify competitive systems and practices used in their own workplace
- identify change and its impact on own work practices in relation to implementation of competitive systems and practices
- adopt change and seek any required assistance
- identify areas for improvement.

Knowledge Evidence

Must provide evidence that demonstrates knowledge relevant to their job role sufficient to fulfil their job role under routine only supervision:

- features of common competitive systems and practices in use in own workplace
- sources of data on the process/plant
- methods of determining own skill needs
- health, safety and environment (HSE) principles relevant to own job
- change implementation contacts and procedures
- employee assistance mechanisms within organisation.

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 operation of the workplace
  - 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 evidence of responding to change in own workplace

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    - will typically include the use of appropriate tools, equipment and safety gear requiring demonstration of preparation, operation, completion and responding to problems.
- Assessment should occur in operational workplace situations. 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.
- Assessors must satisfy the assessor competency requirements that are in place at the time of the assessment as set by the VET regulator.
- The assessor must demonstrate both technical competency and currency.
- Technical competence can be demonstrated through:
    - relevant VET or other qualification/Statement of Attainment AND/OR
    - relevant workplace experience
- Currency can be demonstrated through:
    - performing the competency being assessed as part of current employment OR
    - having consulted with an organisation providing relevant environmental monitoring, management or technology services about performing the competency being assessed within the last twelve months.

Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=5b04f318-804f-4dc0-9463-c3fb9a3fe998

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MSS402020 Apply quick changeover procedures

Modification History

Release 1. Supersedes and is equivalent to MSS402020A Apply quick changeover procedures

Application

This unit of competency covers the skills and knowledge required to apply quick changeover procedures in an organisation implementing competitive systems and practices.

This unit applies to individuals in an organisation which is implementing competitive systems and practices and is pursuing quick changeover as one of its competitive operations tools. The unit can apply to quick changeovers of equipment, processes, batches or product type. It requires the application of skills associated with applying quick changeover procedures, including the planning and organising of own work, identifying problems and making suggestions for improvement of procedures.

Particular technical skills may also be required in some operations sectors and for some jobs. These skills should be gained from the Training Package relevant to the individual's industry and occupation.

This unit may not be applicable to a totally continuous operation producing only the one product, or simultaneous range of products. The unit is also not applicable to a maintenance/PVI shutdown as experienced by continuous process manufacturers.

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

Pre-requisite Unit

Nil

Competency Field

Competitive systems and practices

Unit Sector

Not applicable

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Elements and Performance Criteria

Elements describe the essential outcomes.		Performance criteria describe the performance needed to demonstrate achievement of the element.	
1	**Prepare for changeover**	1.1	Determine when changeover will be required.
		1.2	Review plans and instructions for quick changeover.
		1.3	Identify role of others in quick changeover.
		1.4	Obtain all required tools/parts/materials for changeover.
		1.5	Organise process and tools/parts/materials ready for changeover.
2	**Make quick changeover**	2.1	Plan changeover according to quick changeover principles.
		2.2	Liaise and work with relevant people in quick changeover.
		2.3	Complete changeover according to procedures.
		2.4	Check output meets specification.
		2.5	Debrief with all relevant stakeholders.
		2.6	Note any steps which cause a problem.
		2.7	Recommend changes to problematic steps.
3	**Improve work health and safety (WHS)**	3.1	Identify hazards to self or others in all steps/actions.
		3.2	Determine risks from each hazard.
		3.3	Identify actions which may be performed in a more ergonomic manner.
		3.4	Recommend changes to improve WHS.

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Foundation Skills

This section describes those required skills (language, literacy and numeracy) 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.

Competitive systems and practices include one or more of:	• lean operations • agile operations • preventative and predictive maintenance approaches • monitoring and data gathering systems, such as Systems Control and Data Acquisition (SCADA) software, Enterprise Resource Planning (ERP) systems, Materials Resource Planning (MRP) and proprietary systems • statistical process control systems, including six sigma and three sigma • Just in Time (JIT), kanban and other pull-related operations control systems • supply, value, and demand chain monitoring and analysis • 5S • continuous improvement (kaizen) • breakthrough improvement (kaizen blitz) • cause/effect diagrams • overall equipment effectiveness (OEE) • takt time • process mapping • problem solving • run charts • standard procedures • current reality tree.
Changeover may include one or more of:	• an exchange of equipment (often dies or tools (traditional)) • a change between products/batches or between campaigns or processes. It may be any quantum change to produce a different product or undertake a different process.

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Set-up can be divided into two types:	• internal set-up (requires work to stop, work that can be done only when the machine or process is not actively engaged in production, computers etc. need to be reset and restarted) • external set-up (work can continue during the changeover, work can be done concurrently with the machine or process performing production duties).
Set-up time includes:	• the work time required to change over a machine or process from one item or operation to the next item or operation.
Procedures (written, verbal, visual, computer based, etc.) include one or more of:	• work instructions • standard operating procedures (SOPs) • safe work method statements • 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 MSS402020A Apply quick changeover procedures

Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=5b04f318-804f-4dc0-9463-c3fb9a3fe998

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Assessment Requirements for MSS402020 Apply quick changeover procedures

Modification History

Release 1. Supersedes and is equivalent to MSS402020A Apply quick changeover procedures

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 the ability, for three (3) or more quick changeovers, to:

- identify the scope and equipment to be used in a quick changeover implemented in their own workplace
- plan and complete changeover
- identify problems in quick changeovers
- contribute suggestions for improvement.

Knowledge Evidence

- Must provide evidence that demonstrates knowledge relevant to their job role sufficient to fulfil their job role under routine only supervision and to solve routine problems, including knowledge of:
- principles of quick changeover, including:
  - setting of target time for changeover
  - conversion of internal set-up time to external set-up time, where appropriate
  - simplification of changeover steps
  - monitoring and continuous improvement of changeovers
- purpose and requirements of changeover
- minimisation of changeover waste (e.g. scrap and energy)
- quality requirements for products and purposes
- relevant operational procedures
- health, safety and environment (HSE) principles relevant to own job.

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 operation of the workplace

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  - 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 actual quick changeovers, the use of appropriate tools, equipment and safety gear requiring demonstration of preparation, operation, completion and responding to problems.
- Assessment should occur in operational workplace situations. 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.
- Assessors must satisfy the assessor competency requirements that are in place at the time of the assessment as set by the VET regulator.
- The assessor must demonstrate both technical competency and currency.
- Technical competence can be demonstrated through:
  - relevant VET or other qualification/Statement of Attainment AND/OR
  - relevant workplace experience
- Currency can be demonstrated through:
  - performing the competency being assessed as part of current employment OR
  - having consulted with an organisation providing relevant environmental monitoring, management or technology services about performing the competency being assessed within the last twelve months.

Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=5b04f318-804f-4dc0-9463-c3fb9a3fe998

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MSS402021 Apply Just in Time procedures

Modification History

Release 1. Supersedes and is equivalent to MSS402021A Apply Just in Time procedures

Application

This unit of competency covers the skills and knowledge required to work in an organisation implementing and/or utilising Just in Time (JIT) procedures.

This unit applies to an individual working in an organisation following JIT who will need to follow procedures which are specific to JIT, such as the controlled flow of material (e.g. the use of kanban and elimination of waste). This will involve the individual in the application of the pull system to their job and the authorisation of product/material flows in accordance with procedures and their level of authority.

This unit requires the application of skills associated with planning and organising and self-management to deliver product on demand using necessary tools, equipment and processes to meet production requirements. The unit also requires an ability to recognise and act on problems that may interfere with meeting production demands.

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

Pre-requisite Unit

Nil

Competency Field

Competitive systems and practices

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.

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1	**Respond to indicator of demand**	1.1	Identify pull of product through work role.
		1.2	Recognise indicator of flow authorisation.
		1.3	Identify production or service required.
2	**Make products or deliver service to demand**	2.1	Make product or deliver service as required by ticket.
		2.2	Identify any factors likely to prevent demand being satisfied in own work or work of the team.
		2.3	Take action in accordance with procedures.
3	**Update demand information as required**	3.1	Record information on ticket to procedures, as required.
		3.2	Facilitate operation of flow authorisation as part of work.
4	**Recommend improvements**	4.1	Examine the operation of the JIT system as it relates to own work.
		4.2	Identify areas for improvement.
		4.3	Identify any additional personal skill requirements to implement JIT procedures.
		4.4	Recommend improvements.

Foundation Skills

This section describes those required skills (language, literacy and numeracy) 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

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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.

Competitive systems and practices include one or more of:	• lean operations • agile operations • preventative and predictive maintenance approaches • statistical process control systems, including six sigma and three sigma • Just in Time (JIT), kanban and other pull-related operations control systems • supply, value, and demand chain monitoring and analysis • 5S • continuous improvement (kaizen) • breakthrough improvement (kaizen blitz) • cause/effect diagrams • overall equipment effectiveness (OEE) • takt time • process mapping • problem solving • run charts • standard procedures • current reality tree.
JIT requires availability:	• precisely when the service, product or operation is to be produced or undertaken • in the right quantity and at the right quality.
Product includes one or more of:	• a physical product • a supporting utility service, such as water, gas and power • some other service (e.g. cranes and forklifts).
Indicator of demand includes one or more of:	• kanban bin, ticket or similar • some other indicator of demand pull which authorises production or movement of an item (in some plants, this may also include authorisation using SCADA software).
Procedures (written, verbal, visual, computer based, etc.) include one or	• work instructions • standard operating procedures (SOPs) • safe work method statements • formulas/recipes

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more of:

- 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 MSS402021A Apply Just in Time procedures

Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=5b04f318-804f-4dc0-9463-c3fb9a3fe998

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Assessment Requirements for MSS402021 Apply Just in Time procedures

Modification History

Release 1. Supersedes and is equivalent to MSS402021A Apply Just in Time procedures

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 the ability, for one (1) or more JIT procedures, to:

- identify the indicators of demand and the flow authorisation system in their own workplace
- relate products and services supplied by suppliers and customers to the flow authorisation system
- interpret received indicators of demand correctly for quantity, quality and time of delivery
- contribute suggestions for improvement.

Knowledge Evidence

Must provide evidence that demonstrates knowledge relevant to their job role sufficient to fulfil their job role under routine only supervision, including:

- JIT methods relevant to own job
- relevant indicator of demands for own job
- own role in flow authorisation
- faults and other issues that may threaten the JIT delivery of own product or service
- procedures for recommending improvements.

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 operation of the workplace
  - 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 JIT procedures in own workplace

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    - will typically include the use of appropriate tools, equipment and safety gear requiring demonstration of preparation, operation, completion and responding to problems.
- Assessment should occur in operational workplace situations. 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.
- Assessors must satisfy the assessor competency requirements that are in place at the time of the assessment as set by the VET regulator.
- The assessor must demonstrate both technical competency and currency.
- Technical competence can be demonstrated through:
    - relevant VET or other qualification/Statement of Attainment AND/OR
    - relevant workplace experience
- Currency can be demonstrated through:
    - performing the competency being assessed as part of current employment OR
    - having consulted with an organisation providing relevant environmental monitoring, management or technology services about performing the competency being assessed within the last twelve months.

Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=5b04f318-804f-4dc0-9463-c3fb9a3fe998

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MSS402031 Interpret product costs in terms of customer requirements

Modification History

Release 1. Supersedes and is equivalent to MSS402031A Interpret product costs in terms of customer requirements.

Release 2. Unit code in Application updated. Equivalent outcome.

Application

This unit of competency covers the skills and knowledge required by an individual to be able to identify the major cost components of either products or processes, the basic relationship of these to customer benefit, and use this to help minimise waste (defined as anything not delivering value as defined by the customer). It has a different focus to *MSS402082 Apply cost factors to work practices*, which focuses on costs in isolation, whereas this unit regards all costs not directly leading to customer benefit as waste.

This unit applies to an individual who uses their understanding of the customer's requirements of the product or process being undertaken as the basis for investigating work processes to identify waste sources and then takes action relevant to their level of competency and authority to reduce this waste. It requires an understanding of both the cost factors in the products they make and also the benefits which the customer derives from the product.

This competency may be performed individually or in a team-based environment.

This unit requires the application of skills associated with analysis and problem solving to identify waste and determine ways to minimise waste. This unit requires initiative and enterprise and application of learning in concepts of waste and waste minimisation.

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

Pre-requisite Unit

Nil

Competency Field

Competitive systems and practices

Unit Sector

Not applicable

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Elements and Performance Criteria

Elements describe the essential outcomes.		Performance criteria describe the performance needed to demonstrate achievement of the element.	
1	**Identify cost components deriving from customer benefit and other costs**	1.1	Identify customer features/benefits in product or process being undertaken.
		1.2	Identify cost components which deliver customer features/benefits and those which do not.
2	**Compare required performance of product or process steps with actual performance**	2.1	Identify performance required to meet customer needs in own work and that of team.
		2.2	Identify actual performance.
		2.3	Compare cost components of products or process with current customer-related targets.
		2.4	Separate costs components into those that contribute to customer features/benefits and those that do not.
		2.5	Determine non-contributing cost components which are under control of the individual or team.
3	**Minimise waste**	3.1	Recommend changes to eliminate or reduce waste.
		3.2	Adopt changes which minimises waste.
		3.3	Monitor effect of changes to ensure gains are made against customer features/benefits.

Foundation Skills

This section describes those required skills (language, literacy and numeracy) 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

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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.

Competitive systems and practices include one or more of:

- lean operations
- agile operations
- preventative and predictive maintenance approaches
- statistical process control systems, including six sigma and three sigma
- Just In Time (JIT), kanban and other pull-related operations control systems
- supply, value, and demand chain monitoring and analysis
- 5S
- continuous improvement (kaizen)
- breakthrough improvement (kaizen blitz)
- cause/effect diagrams
- overall equipment effectiveness (OEE)
- takt time
- process mapping
- problem solving
- run charts
- standard procedures
- current reality tree.

Customer features/ benefits include all of:

- characteristics of the product or service which the customer perceives as meeting their need
- characteristics of the product or service which the customer perceives as adding value
- financial or features items which the customer perceives and a benefit.

Performance includes all of:

- takt - the allowable time to produce one product at the rate and quality customers are demanding it
- the rate of output of the plant compared to the takt time.

Customer-related targets includes all of:

- internally set financial targets that contribute to meeting customer features/benefits
- operational targets that contribute to meeting customer features/benefits
- other targets that contribute to meeting customer features/benefits.

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Contributing cost components include all of:	• costs that make a direct contribution to customer features/benefits. • costs that need to be incurred (although they may be minimised) in order to gain the customer feature/benefit.
Non-contributing cost components include all of:	• costs that do not contribute to customer features/benefits • costs that must be maintained, such as regulatory compliance costs which do not contribute to customer features and so should be minimised • costs that neither contribute to customer features/benefits nor must be maintained (muda) and so should be eliminated if possible.
Muda (waste) includes all of:	• any activity which does not contribute to customer or organisation benefit/features in the product • activities which do not yield any benefit to the organisation or any benefit to the organisation's customers • excess production and early production • delays • movement and transport • poor process design • inventory • inefficient performance of a process • making defective items.

Unit Mapping Information

Release 1. Supersedes and is equivalent to MSS402031A Interpret product costs in terms of customer requirements

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

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Assessment Requirements for MSS402031 Interpret product costs in terms of customer requirements

Modification History

Release 1. Supersedes and is equivalent to MSS402031A Interpret product costs in terms of customer requirements.

Release 2. Unit code in Application updated. Equivalent outcome.

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 the ability, on **one (1)** or more occasions to recommend muda reduction related to their workplace, and to:

- identify and distinguish between cost components leading to customer benefit or otherwise
- take steps to minimise muda in their workplace.

Knowledge Evidence

Must provide evidence that demonstrates knowledge relevant to their job role sufficient to fulfil their job role under routine only supervision, including:

- contributions towards customer perceived benefit
- concepts of expense, income and capital
- fixed and variable cost components relevant to own work:
  - power/energy
  - materials, plant and equipment
  - production or process time, including impact of salary and wages
  - office expenses
  - government taxes and charges
- relative impact of each of these
- financial and non-financial impacts of cost reductions
- the difference between internally and externally controlled costs
- difference between overhead, labour and consumables.

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 is best done from a report and/or folio of evidence drawn from:

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  - a single project which provides sufficient evidence of the requirements of all the elements and performance criteria
  - multiple smaller projects which together provide sufficient evidence of the requirements of all the elements and performance criteria.
- A third-party report, or similar, may be needed to testify to the work done by the individual, particularly when the project has been done as part of a project team.
- Assessment should use a real project in an operational workplace.
- Knowledge evidence may be collected concurrently with performance evidence 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.
- Assessors must satisfy the assessor competency requirements that are in place at the time of the assessment as set by the VET regulator.
- The assessor must demonstrate both technical competency and currency.
- Technical competence can be demonstrated through:
  - relevant VET or other qualification/Statement of Attainment AND/OR
  - relevant workplace experience
- Currency can be demonstrated through:
  - performing the competency being assessed as part of current employment OR
  - having consulted with an organisation providing relevant environmental monitoring, management or technology services about performing the competency being assessed within the last twelve months.

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

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MSS402040 Apply 5S procedures

Modification History

Release 1. Supersedes and is equivalent to MSS402040A Apply 5S procedures

Release 2. Duplicated performance Criteria removed. Equivalent outcome.

Application

This unit of competency covers the skills and knowledge required by an individual to apply 5S procedures to their own job and work area. The unit assumes the individual has a particular job and an allocated work area and that processes in the work area are known by the individual.

This unit applies to an individual in an organisation who works in an operational position as part of production, maintenance, logistics, etc. The unit can also apply to individuals in other organisations who have a discrete role and responsibility for individually managed processes.

This unit applies where an organisation has decided to embark on a competitive systems and practices strategy and as part of this has adopted the philosophy of 5S as one of the tools to improve performance. The employee needs to apply 5S to their job and work area and maintain the housekeeping and other standards set by 5S.

This unit requires the application of skills associated with planning and organising, problem solving and self-management, in order to identify and implement 5S housekeeping practices.

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

Pre-requisite Unit

Nil

Competency Field

Competitive systems and practices

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.

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1	**Sort needed items from unneeded**	1.1	Identify all items in the work area.
		1.2	Sort items to achieve deliverables and value expected by downstream and final customers.
		1.3	Sort items required for regulatory or other required purposes.
		1.4	Place any non-essential item in an appropriate place other than the workplace.
		1.5	Regularly check that only essential items are in the work area.
2	**Set the workplace in order**	2.1	Identify the best location for each essential item.
		2.2	Place each essential item in its assigned location.
		2.3	After use immediately return each essential item to its assigned location.
		2.4	Regularly check that each essential item is in its assigned location.
3	**Shine the work area**	3.1	Keep the work area clean and tidy at all times.
		3.2	Conduct regular housekeeping activities during shift.
		3.3	Ensure the work area is neat, clean and tidy at both beginning and end of shift.
4	**Standardise activities**	4.1	Follow procedures.
		4.2	Follow checklists for activities, where available.
		4.3	Keep the work area to specified standard.
5	**Sustain the 5S system**	5.1	Clean up after completion of job and before commencing next job or end of shift.
		5.2	Identify situations where compliance to standards is unlikely and take actions specified in procedures.

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5.3 Inspect work area regularly for compliance to specified standard.

5.4 Recommend improvements to lift the level of compliance in the workplace.

Foundation Skills

This section describes those required skills (language, literacy and numeracy) 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.

Competitive systems and practices include one or more of:

- lean operations
- agile operations
- preventative and predictive maintenance approaches
- statistical process control systems, including six sigma and three sigma
- Just in Time (JIT), kanban and other pull-related operations control systems
- supply, value, and demand chain monitoring and analysis
- 5S
- continuous improvement (kaizen)
- breakthrough improvement (kaizen blitz)
- cause/effect diagrams
- overall equipment effectiveness (OEE)
- takt time
- process mapping
- problem solving
- run charts
- standard procedures
- current reality tree.

5S includes all of:

- sort

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- set in order
- shine
- standardise
- sustain.

Sort includes all of:

- separating necessary from unnecessary items (equipment and supplies)
- keeping only what is absolutely necessary for the work processes that comprise the job
- disposing of (or relocating) all other items.

Set in order includes all of:

- assigning required equipment and materials appropriate locations in the work area
- consideration of frequency of use, ergonomics and work health and safety (WHS)
- provision of facilities to maintain the locations.

Shine includes one or more of:

- keeping the work area clean at all times which should be carried out to a regular daily schedule against allowed time, usually at the end of the day or of a particular process
- keeping work area organised
- noting any signs of wear, damage, leakage, safety risks or other issues that require immediate attention.

Best location includes one or more of:

- changes to the layout of furniture
- arrangement of equipment
- provision of services
- location of personnel.

Standardising includes one or more of:

- activities that help maintain the order and the housekeeping standards
- using procedures and checklists developed from a procedure.

Sustain includes one or more of:

- making sure that daily activities are completed every day regardless of circumstance
- cleaning up after a job
- undertaking inspections, including:
- informal inspections carried out often, at least weekly
- formal inspections carried out at least monthly

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- generating continuous improvement actions from daily activities
- following up specific actions to generate continuous improvement.

Items in work area include one or more of:

- tools
- jigs/fixtures
- materials/components
- plant and equipment
- manuals
- personal items (e.g. bags, lunch boxes and posters)
- safety equipment and personal protective equipment (PPE)
- other items which happen to be in the work area.

Procedures (written, verbal, visual, computer based, etc.) include one or more of:

- work instructions
- standard operating procedures (SOPs)
- safe work method statements
- 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 MSS402040A Apply 5S procedures

Release 2. Equivalent to MSS402040 Apply 5S procedures Release 1.

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

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Assessment Requirements for MSS402040 Apply 5S procedures

Modification History

Release 1. Supersedes and is equivalent to MSS402040A Apply 5S procedures

Release 2. Duplicated performance Criteria removed. Equivalent outcome.

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 the ability, in one (1) or more allocated areas, to:

- implement and sustain 5S in own workplace
- identify own tasks and responsibilities
- contribute suggestions for improvement.

Knowledge Evidence

Must provide evidence that demonstrates knowledge relevant to their job role sufficient to fulfil their job role under routine only supervision, including:

- purpose of 5S in the workplace
- meaning and application of 5S steps to own workplace and job
- principles of efficient workplace organisation
- identifying waste (muda)
- procedures for recommending improvements.

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 operation of the workplace
  - 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 application of 5S procedures in a work area where 5S has not previously been undertaken, or, demonstration of sustaining 5S principles in a work area that has already undergone prior 5S procedures
  - will typically include the use of appropriate tools, equipment and safety gear requiring demonstration of preparation, operation, completion and responding to problems.

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- Assessment should occur in operational workplace situations. 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.
- Assessors must satisfy the assessor competency requirements that are in place at the time of the assessment as set by the VET regulator.
- The assessor must demonstrate both technical competency and currency.
- Technical competence can be demonstrated through:
  - relevant VET or other qualification/Statement of Attainment AND/OR
  - relevant workplace experience
- Currency can be demonstrated through:
  - performing the competency being assessed as part of current employment OR
  - having consulted with an organisation providing relevant environmental monitoring, management or technology services about performing the competency being assessed within the last twelve months.

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

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MSS402050 Monitor process capability

Modification History

Release 1. Supersedes and is equivalent to MSS402050A Monitor process capability

Application

This unit of competency covers the skills and knowledge required for gathering of data and the interpretation of simple information to determine the compliance of the process and the taking of action as defined by the procedures where the information reveals the process is out of control parameters.

This unit applies to an individual in an organisation adopting specific competitive systems and practices, usually either six sigma or statistical process control/three sigma, as a means of determining and improving the capability of their process to customer requirements. The individual is involved in collecting specified data and performing specified manipulations to the data (typically by plotting on a chart or by entering into a nominated computer program). The information is typically presented to team members in terms of graphs/charts which they are expected to interpret at a basic level and then take action in accordance with procedures to restore the process to being under control parameters.

This unit requires the application of skills associated with entering and monitoring operational data and information and requires initiative, enterprise and problem solving in identifying production variations and making improvement recommendations.

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

Pre-requisite Unit

Nil

Competency Field

Competitive systems and practices

Unit Sector

Not applicable

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Elements and Performance Criteria

Elements describe the essential outcomes.		Performance criteria describe the performance needed to demonstrate achievement of the element.	
1	**Collect and process data**	1.1	Take specified measurements/readings/observations, as required.
		1.2	Enter data in log, computer or other record.
		1.3	Manipulate and/or chart data as required by procedures.
2	**Identify variations that are not random and take action**	2.1	Examine chart and/or reliability information.
		2.2	Distinguish between random variations and those with an identifiable cause.
		2.3	Take action specified in procedures when a variation with an identifiable cause occurs.
3	**Assist in process improvement**	3.1	Collect data for process capability improvement trials.
		3.2	Make recommendations for improvement.
		3.3	Implement revised capability monitoring procedures.

Foundation Skills

This section describes those required skills (language, literacy and numeracy) 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.

Competitive systems	• lean operations

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and practices include one or more of:	• agile operations • preventative and predictive maintenance approaches • statistical process control systems, including six sigma and three sigma • Just in Time (JIT), kanban and other pull-related operations control systems • supply, value, and demand chain monitoring and analysis • 5S • continuous improvement (kaizen) • breakthrough improvement (kaizen blitz) • cause/effect diagrams • overall equipment effectiveness (OEE) • takt time • process mapping • problem solving • run charts • standard procedures • current reality tree.
Procedures (written, verbal, visual, computer based, etc.) include one or any combination of:	• work instructions • standard operating procedures (SOPs) • safe work method statements • formulas/recipes • batch sheets • temporary instructions • any similar instructions provided for the smooth running of the plant.
Process capability includes one or more of:	• the capability of the process to deliver to customer defined requirements • process stability against standardised practices and documentation to eliminate variation against customer requirements • statistical capability to deliver product within a specified range • a statistical technique to determine the range within which a product might be expected to fall.

Unit Mapping Information

Release 1. Supersedes and is equivalent to MSS402050A Monitor process capability

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Links

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Assessment Requirements for MSS402050 Monitor process capability

Modification History

Release 1. Supersedes and is equivalent to MSS402050A Monitor process capability

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 the ability to assist in one (1) or more process improvements and to routinely:

- collect and process data
- identify non-random variations and take the action specified in the procedures
- make recommendations for improvements.

Knowledge Evidence

Must provide evidence that demonstrates knowledge relevant to their job role sufficient to fulfil their job role under routine only supervision, including:

- defects and defective product
- variation and the related statistical distribution
- control charting (or similar) methods
- analysis of information to identify trends or other non-random results
- determination of identifiable causes from variation information
- process capability determination from variation data.

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 operation of the workplace
  - 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 routine collection of data and identification of non-random variation in own workplace
  - must include participation in a process capability improvement project

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  - will typically include the use of appropriate statistical tools, aids and apps.
- Assessment should occur in operational workplace situations.
- 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.
- Assessors must satisfy the assessor competency requirements that are in place at the time of the assessment as set by the VET regulator.
- The assessor must demonstrate both technical competency and currency.
- Technical competence can be demonstrated through:
  - relevant VET or other qualification/Statement of Attainment AND/OR
  - relevant workplace experience
- Currency can be demonstrated through:
  - performing the competency being assessed as part of current employment OR
  - having consulted with an organisation providing relevant environmental monitoring, management or technology services about performing the competency being assessed within the last twelve months.

Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=5b04f318-804f-4dc0-9463-c3fb9a3fe998

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MSS402051 Apply quality standards

Modification History

Release 1. Supersedes and is equivalent to MSS402051A Apply quality standards

Application

This unit of competency covers the skills and knowledge required to apply quality standards to work operations in an organisation. The unit is designed to complement competitive systems and practices units.

This unit applies to an individual who is expected to take responsibility for the quality of their own work, and to take actions specified in the procedures and within the scope of their job and authority to ensure that quality standards are met.

This unit requires the application of skills associated with interpreting and applying workplace standards and identifying and addressing problems that interfere with quality outcomes. The unit requires initiative, enterprise and self-management to ensure quality standards are achieved.

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

Pre-requisite Unit

Nil

Competency Field

Competitive systems and practices

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.

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1	**Assess own work**	1.1	Continuously check completed work against workplace standards relevant to the operation being undertaken.
		1.2	Demonstrate an understanding of how the work activities and completed work relate to the next production process or processes and to the final products or services concerned.
		1.3	Identify and isolate faulty components, products or processes.
		1.4	Record and/or report faults and any identified causes to the supervisor concerned, where required, in accordance with workplace procedures.
2	**Assess quality of received components, parts or materials**	2.1	Continuously measure/check received components, parts, materials, information, service or final products against workplace standards and specifications for conformance.
		2.2	Demonstrate an understanding of how the received components, parts or materials, information or service relate to the current operation and how they contribute to the final quality of the product or service.
		2.3	Identify and isolate faulty components, parts, materials or information that relate to the operator's work.
		2.4	Record and/or report faults and any identified causes in accordance with workplace procedures.
		2.5	Identify causes of any identified faults and take corrective action as specified in workplace procedures.
3	**Investigate causes of quality deviations**	3.1	Record information on quality and other indicators of process performance.
		3.2	Investigate and report causes of deviations from specified quality standards for components.
		3.3	Recommend suitable preventative action based on workplace quality standards and the identified causes of deviations from specified quality standards of materials.

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Foundation Skills

This section describes those required skills (language, literacy and numeracy) 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.

Competitive systems and practices include one or more of:

- lean operations
- agile operations
- preventative and predictive maintenance approaches
- statistical process control systems, including six sigma and three sigma
- Just in Time (JIT), kanban and other pull-related operations control systems
- supply, value, and demand chain monitoring and analysis
- 5S
- continuous improvement (kaizen)
- breakthrough improvement (kaizen blitz)
- cause/effect diagrams
- overall equipment effectiveness (OEE)
- takt time
- process mapping
- problem solving
- run charts
- standard procedures
- current reality tree.

Quality parameters include one or more of:

- finish
- size
- durability
- product or process variations
- materials
- alignment
- colour
- damage and imperfections

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- time
- is complete/contains all required information/data
- complies to template
- uses the correct styles and formats.

Quality checks include one or more of:

- visual inspection
- physical measurements
- chemical tests
- checks against patterns, templates, styles, formats and guides
- processing time.

Materials include one or more of:

- physical raw materials
- orders, forms and other documentation
- services required for undertaking an operation (e.g. power, water, compressed air and fuel).

Procedures (written, verbal, visual, computer based, etc) include one or more of:

- work instructions
- standard operating procedures (SOPs)
- safe work method statements
- formulas/recipes
- batch sheets
- temporary instructions
- any similar instructions provided for the smooth running of the plant.

Indicators of production performance include one or more of:

- number of items/production rate
- delays and causes of delays (where known)
- other information as specified in the procedures.

Data entry/recording includes one or more of:

- keyboard
- written (including ticks or signs)
- verbal.

Sources of information/ documents include one or more of:

- quality and Australian Standards and procedures
- work instructions, patterns, designs and recipes
- organisation work procedures
- manufacturer instructions for materials and equipment
- organisational or external personnel

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	• customer requirements.
Investigate and report requires following set procedures which include one or more of:	• verbal instructions • documented procedures • other quality procedures as implemented within an organisation or work environment.

Workplace context includes one or more of:	• work organisation procedures and practices relating to the manufacture and quality outcomes for products
	• conditions of service, legislation and industrial agreements, including:
	  • workplace agreements and awards
	  • federal or state/territory legislation
	  • standard work practice.

Reporting/communication includes one or more of:	• verbal and written communication in accordance with organisational policies and procedures • oral, written or visual communication, including simple data.
Being responsible for the maintenance of own work quality includes one or more of	• contributing to the quality improvement of team or section output, where necessary, in accordance with workplace procedures • following safety, environmental, housekeeping and quality procedures as specified by materials/machine/equipment manufacturers, regulatory authorities and the organisation.
Applicable regulations and legislation include one or more of	• work health and safety (WHS) legislation relevant to workplace activities • workers compensation legislation.

Unit Mapping Information

Release 1. Supersedes and is equivalent to MSS402051A Apply quality standards

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Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=5b04f318-804f-4dc0-9463-c3fb9a3fe998

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Assessment Requirements for MSS402051 Apply quality standards

Modification History

Release 1. Supersedes and is equivalent to MSS402051A Apply quality standards

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 the ability, for one (1) or more products/processes, to:

- check and measure relevant quality parameters
- interpret results of quality checks in terms of specifications, patterns and work standards
- take required action where standards of materials, component parts, final product or work processes are found to be unacceptable
- maintain accurate records.

Knowledge Evidence

Must provide evidence that demonstrates knowledge relevant to their job role sufficient to fulfil their job role under routine only supervision, including:

- relevant quality standards, policies and procedures
- relevant production processes, materials and products
- relevant measurement techniques and quality checking procedures
- reporting procedures.

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 operation of the workplace
  - 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 application of quality standards to own workplace
  - will typically include the use of appropriate tools, equipment and safety gear requiring demonstration of preparation, operation, completion and responding to problems.

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- Assessment should occur in operational workplace situations. 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.
- Assessors must satisfy the assessor competency requirements that are in place at the time of the assessment as set by the VET regulator.
- The assessor must demonstrate both technical competency and currency.
- Technical competence can be demonstrated through:
  - relevant VET or other qualification/Statement of Attainment AND/OR
  - relevant workplace experience
- Currency can be demonstrated through:
  - performing the competency being assessed as part of current employment OR
  - having consulted with an organisation providing relevant environmental monitoring, management or technology services about performing the competency being assessed within the last twelve months.

Links

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MSS402080 Undertake root cause analysis

Modification History

Release 1. Supersedes and is equivalent to MSS402080A Undertake root cause analysis

Application

This unit of competency covers the skills and knowledge required to undertake root cause analysis (RCA). This unit also covers the competencies needed by operators to contribute to an advanced maintenance strategy using RCA coupled with diagrams and charts.

This unit applies to individuals working in an organisation that is applying competitive systems and practices strategies. The unit applies to the formal problem solving to root cause that the individual must undertake in their own work area or where the individual contributes to problem solving to root cause as part of a team.

This unit requires an ability to seek and apply information from a variety of sources in order to inform RCAs. Initiative and enterprise is also required to identify quick fix and permanent solutions to problems.

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

Pre-requisite Unit

Nil

Competency Field

Competitive systems and practices

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.

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1	**Recognise problems**	1.1	Identify features or occurrences indicative of a problem.
		1.2	Use appropriate tools, techniques and charts to define the problem.
2	**Implement quick fix**	2.1	Recommend a quick fix within the scope of competency and authority.
		2.2	Use technology or processes relevant to the problem to implement quick fix.
3	**Determine root cause**	3.1	Identify a range of possible causes.
		3.2	Gather data and other information to eliminate or confirm possible causes.
		3.3	Use available data and information to link causes and effects.
		3.4	Seek assistance to obtain additional information if problem is beyond own competency/authority.
		3.5	Identify root cause.
4	**Develop permanent solution**	4.1	Identify a range of methods to eliminate the root cause or break the cause tree.
		4.2	Select the most appropriate solution.
		4.3	Liaise with relevant people.
		4.4	Recommend or implement solution within the limits of competency and authority.
		4.5	Monitor impact of solution and make further recommendations, as required.

Foundation Skills

This section describes those required skills (language, literacy and numeracy) that are essential to performance.

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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.

Competitive systems and practices include one or more of:

- lean operations
- agile operations
- preventative and predictive maintenance approaches
- statistical process control systems, including six sigma and three sigma
- Just in Time (JIT), kanban and other pull-related operations control systems
- supply, value, and demand chain monitoring and analysis
- 5S
- continuous improvement (kaizen)
- breakthrough improvement (kaizen blitz)
- cause/effect diagrams
- overall equipment effectiveness (OEE)
- takt time
- process mapping
- problem solving
- run charts
- standard procedures
- current reality tree.

Problems include one or more of:

- variation to normal plant or equipment operation
- unplanned or non-conforming process or operations outcomes
- out of specification products
- excess scrap
- accidents and emergencies
- regulatory breaches
- customer returns and complaints
- reduction or loss of sales.

Techniques/charts include one or more

- control charts
- Pareto charts

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of:

- run charts
- flow charts
- cause and effect diagrams
- tree diagrams
- 5 Whys analysis
- organisation specified/mandated methods.

Unit Mapping Information

Release 1. Supersedes and is equivalent to MSS402080A Undertake root cause analysis

Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=5b04f318-804f-4dc0-9463-c3fb9a3fe998

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Assessment Requirements for MSS402080 Undertake root cause analysis

Modification History

Release 1. Supersedes and is equivalent to MSS402080A Undertake root cause analysis

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 the ability, for one (1) or more problems, to:

- undertake problem identification
- use appropriate processes to achieve root cause identification
- recommend solutions and implementation procedures to problems within own area
- monitor implementation of solutions.

Knowledge Evidence

Must provide evidence that demonstrates knowledge relevant to their job role sufficient to fulfil their job role under routine only supervision, including:

- methodology of root cause analysis, including:
  - difference between quick fix and root cause elimination
  - breaking of causal tree
- indicators of problems and variances to normal operation
- relevant analysis tools (e.g. Pareto charts, 5 Whys).

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 operation of the workplace
  - 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 a root cause analysis in own workplace
  - will typically include the use of appropriate tools, equipment and safety gear requiring demonstration of preparation, operation, completion and responding to problems.

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- Assessment should occur in operational workplace situations.
- 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.
- Assessors must satisfy the assessor competency requirements that are in place at the time of the assessment as set by the VET regulator.
- The assessor must demonstrate both technical competency and currency.
- Technical competence can be demonstrated through:
  - relevant VET or other qualification/Statement of Attainment AND/OR
  - relevant workplace experience
- Currency can be demonstrated through:
  - performing the competency being assessed as part of current employment OR
  - having consulted with an organisation providing relevant environmental monitoring, management or technology services about performing the competency being assessed within the last twelve months.

Links

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MSS402081 Contribute to the application of a proactive maintenance strategy

Modification History

Release 1. Supersedes and is equivalent to MSS402081A Contribute to the application of a proactive maintenance strategy

Application

This unit of competency covers the skills and knowledge required by an individual to make a positive contribution to proactive maintenance strategies, including actions that contribute to equipment uptime and overall equipment effectiveness (OEE). This unit applies in an organisation which is following a predictive, preventative or reliability-centred maintenance strategy and which requires commitment from all employees. The employee should 'own' their equipment/plant and take an active part in the implementation of the strategy within the scope of their authority.

This unit requires the application of skills associated with accessing and maintaining equipment/plant documentation. It also requires problem solving, initiative and enterprise to continually monitor and maintain operational performance of equipment/plant used in work role.

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

Pre-requisite Unit

Nil

Competency Field

Competitive systems and practices

Unit Sector

Not applicable

Elements and Performance Criteria

Elements describe the Performance criteria describe the performance needed to

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essential outcomes.		demonstrate achievement of the element.	
1	**Maintain equipment/plant**	1.1	Keep equipment/plant within area of responsibility clean.
		1.2	Ensure equipment/plant is serviced and adjusted, as required, in accordance with procedures and own level of responsibility.
		1.3	Access manufacturer manuals and specifications, where required, to expand knowledge on the maintenance of equipment/plant.
		1.4	Access and update documentation on equipment/plant operation and maintenance in accordance with workplace procedures.
2	**Monitor operation of equipment/plant**	2.1	Regularly check key conditions of the equipment/plant as defined in workplace procedures.
		2.2	Regularly check equipment/plant OEE.
		2.3	Note any deviation from conditions specified in procedures.
3	**Identify deviations and patterns**	3.1	Identify any previous occurrences of a deviation.
		3.2	Identify any related deviations which have occurred.
		3.3	Identify any unusual occurrence which may be related to a deviation.
4	**Take action appropriate to competency and authority on deviation**	4.1	Liaise with relevant people regarding the deviation and the solution.
		4.2	Implement solution and/or assist with the implementation of the solution, as appropriate.

Foundation Skills

This section describes those required skills (language, literacy and numeracy) that are essential to performance.

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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.

Competitive systems and practices include one or more of:	• lean operations • agile operations • preventative and predictive maintenance approaches • statistical process control systems, including six sigma and three sigma • Just in Time (JIT), kanban and other pull-related operations control systems • supply, value, and demand chain monitoring and analysis • 5S • continuous improvement (kaizen) • breakthrough improvement (kaizen blitz) • cause/effect diagrams • OEE • takt time • process mapping • problem solving • run charts • standard procedures • current reality tree.
Uptime includes one or more of:	• the overall availability of the plant • the inverse of downtime or the unavailability of the plant • the fraction, percentage or time the plant is available for production.
Procedures (written, verbal, visual, computer based, etc.) include one or any combination of:	• work instructions • standard operating procedures (SOPs) • safe work method statements • formulas/recipes • batch sheets • temporary instructions

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- any similar instructions provided for the smooth running of the plant.

Unit Mapping Information

Release 1. Supersedes and is equivalent to MSS402081A Contribute to the application of a proactive maintenance strategy

Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=5b04f318-804f-4dc0-9463-c3fb9a3fe998

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Assessment Requirements for MSS402081 Contribute to the application of a proactive maintenance strategy

Modification History

Release 1. Supersedes and is equivalent to MSS402081A Contribute to the application of a proactive maintenance strategy

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 the ability to monitor equipment/plant in one (1) or more areas, and to:

- maintain the equipment/plant to the required standard
- identify deviations in OEE requiring action
- take the action required by the procedures.

Knowledge Evidence

Must provide evidence that demonstrates knowledge relevant to their job role sufficient to fulfil their job role under routine only supervision, including:

- interpretation of trends or other non-random variation
- determining OEE (availability x performance x quality rate) and uptime metrics
- principles of operation of plant/equipment and factors likely to cause deviations in performance
- identifying deviations requiring action
- appropriate actions for dealing with deviations.

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 operation of the workplace
  - 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 application of proactive maintenance in own workplace
  - will typically include the use of appropriate tools, equipment and safety gear requiring demonstration of preparation, operation, completion and responding to problems.

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- Assessment should occur in operational workplace situations.
- 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.
- Assessors must satisfy the assessor competency requirements that are in place at the time of the assessment as set by the VET regulator.
- The assessor must demonstrate both technical competency and currency.
- Technical competence can be demonstrated through:
  - relevant VET or other qualification/Statement of Attainment AND/OR
  - relevant workplace experience
- Currency can be demonstrated through:
  - performing the competency being assessed as part of current employment OR
  - having consulted with an organisation providing relevant environmental monitoring, management or technology services about performing the competency being assessed within the last twelve months.

Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=5b04f318-804f-4dc0-9463-c3fb9a3fe998

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MSS402082 Apply cost factors to work practices

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 identify cost components in work practices and determine, in general terms, the cost impacts of alternative actions.

The unit applies to assessing the relative costs of the alternatives and using this as one of the key factors in making decisions. Decisions are made within the scope of the employee's authority and according to procedures. Typical decisions include those that contribute to the efficient organisation of own work and the improvement of production time and cycle times.

Employees are required to use problem solving to identify cost factors and cost implications of own work and self-management to apply cost-effective practices.

This unit applies to an individual who is required to contribute to, and be involved in, the assessment of cost factors in their work. This may be done individually or in a team environment.

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

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	**Identify the major cost**	1.1 Identify cost components in the product or process in own work area

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Elements describe the essential outcomes.		Performance criteria describe the performance needed to demonstrate achievement of the element.
	components of product or process in own work area	1.2 Recognise the impact of current or alternative actions on costs
2	**Identify constraints to cost-efficiency**	2.1 Identify required production or process rate and major costs 2.2 Identify costs factors under individual or team control 2.3 Relate identified costs factors to impact on overall cost of production or process 2.4 Identify cost factors that are a constraint to cost-efficiency in own work area
3	**Apply cost-efficient work practices**	3.1 Identify and explain to relevant people the implications of actions and changes to improve cost-efficiency in simple financial terms 3.2 Identify non-financial implications of proposed changes in discussion with relevant people 3.3 Select actions which minimise overall costs 3.4 Monitor actions to ensure cost-efficiency in own work area is maintained

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 MSS402030 Apply cost factors to work practices.

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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

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Assessment Requirements for MSS402082 Apply cost factors to work practices

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:

- identified cost factors and cost implications of at least 1 product or process in own work and applied cost-effective practices.

Knowledge Evidence

There must be evidence the candidate has knowledge of:

- concepts of expense, income and capital
- relative impact of fixed and variable cost components relevant to own work, including:
  - power and energy
  - materials, plant and equipment
  - production or process time, including impact of salary and wages
  - office expenses
  - government taxes and charges
- financial and non-financial impacts of cost reductions
- the difference between internally and externally controlled costs
- difference between overhead, labour and consumables.

Assessment Conditions

Skills must have been demonstrated in the workplace or in a simulated environment that reflects workplace conditions, contingencies, facilities, equipment and resources.

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

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MSS402083 Use planning software systems in operations

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 access planning software (often known as Enterprise Resource Planning (ERP), Materials Resource Planning (MRP and MRPII), and often by a proprietary name, to make routine business decisions required of the person as a regular part of their job.

This unit applies to an individual in an organisation using a planning software system and who must interface with that system. The unit applies to both accessing information from the planning software system and using it as an aid to decision making. This unit requires the application of communication, planning, and problem solving associated with using planning software in own work.

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

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	**Use interface**	1.1	Identify terminals relevant to own workstation and functions
		1.2	Use peripherals to access system

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Elements describe the essential outcomes.		Performance criteria describe the performance needed to demonstrate achievement of the element.	
		1.3	Navigate through system and screens to find program menu and data relevant to own work
		1.4	Identify and input information on own work processes at required frequency and to required detail
		1.5	Access message section and read and acknowledge messages
		1.6	Identify problems and make suggestions for improvements to relevance of planning software to own work
2	**Access information**	2.1	Identify work processes that require information from planning software system
		2.2	Obtain data and information on current operations from the planning software system
		2.3	Identify the status of items in the value stream
		2.4	Access and read historical data and information
		2.5	Read and interpret information and identify and prioritise actions required in response to information
3	**Take action in accordance with procedures**	3.1	Take action in response to information obtained from planning software
		3.2	Follow up to ensure anticipated results have occurred
		3.3	Record adjustments and variations
		3.4	Identify any learning needs to use planning software and seek support

Foundation Skills

This section describes those language, literacy, numeracy and employment skills that are essential to performance.

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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 MSS402060 Use planning software systems in operations.

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

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Assessment Requirements for MSS402083 Use planning software systems in operations

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:

- used planning software systems for at least 3 different purposes, utilising outcomes to aid decision making.

Knowledge Evidence

There must be evidence the candidate has knowledge of:

- planning software system and operation, including:
  - terminal locations and types
  - security and access arrangements
  - information held in planning software relevant to own work
  - data collection methods for operations in work area
  - assistance arrangements for users of planning software
  - business activities exercised with the planning software system
- procedures for recommending improvements
- data and information sources.

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:
  - planning software systems.

Assessors must satisfy the NVR/AQTF mandatory competency requirements for assessors.

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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

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MSS403010 Facilitate change in an organisation implementing competitive systems and practices

Modification History

Release 1. Supersedes and is equivalent to MSS403010A Facilitate change in an organisation implementing competitive systems and practices

Application

This unit of competency covers the skills and knowledge required by individuals responsible for facilitating change processes in an organisation implementing competitive operational practices.

This unit applies to individuals who facilitate the change process resulting from implementing one or more competitive systems or practices. This implementation may also be associated with other changes, such as the introduction of new products, processes or equipment. The unit will usually apply to individuals whose responsibility is at the team, area or section level rather than the whole organisation. The responsibility may be formally designated or be informal, as in mentoring and assisting fellow employees.

This unit assumes that consultation and agreement on the implementation of the competitive systems and practices and other associated changes has already occurred and the nature and extent of the change has been agreed.

This unit does not cover the negotiation of change in a formal industrial relations sense but does cover the skills needed to identify real or potential change implementation issues, including those that may need to be referred to formal consultation and/or dispute settlement procedures.

This unit has a strong emphasis on planning, encouraging and facilitating in a changing environment within the organisation, including using appropriate communication, teamwork, problem solving, initiative and self-management.

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

Pre-requisite Unit

Nil

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Competency Field

Competitive systems and practices

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	**Define nature and impact of change for designated area and processes**	1.1	Identify the organisation's aims and objectives for the competitive systems and practices techniques related to the change process.
		1.2	Identify opportunities for implementation of change within work area.
		1.3	Determine impacts of change for work area, including potential benefits and impacts on own work and work of fellow employees.
2	**Identify key performance indicators (KPIs)**	2.1	Liaise, where required, with managers, engineers and other staff responsible for designing and/or implementing change.
		2.2	Identify KPIs for own work responsibility and that of the work area.
		2.3	Communicate KPIs to fellow employees.
		2.4	Check that data collection and processing are appropriate for KPIs.
		2.5	Raise and resolve issues related to KPIs with relevant personnel.
3	**Liaise with key stakeholders**	3.1	Identify key stakeholders impacted by the change.
		3.2	Communicate with key stakeholders within scope of authority.

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		3.3	Identify and address issues and concerns of each stakeholder if within scope of authority.
		3.4	Develop and/or locate information required to address key concerns.
		3.5	Refer issues and concerns outside of scope of authority to appropriate personnel.
4	**Develop a strategy to help implement change**	4.1	Identify or develop a work plan for implementing change.
		4.2	Make information required to support change available to team members.
		4.3	Communicate/circulate draft work plan to other employees in work area, supervisors, technical experts and other appropriate personnel for comment.
		4.4	Assess suggested changes and incorporate into work plan, where appropriate.
5	**Implement change**	5.1	Obtain authorisation to commence change implementation in accordance with organisation procedures.
		5.2	Implement change in accordance with work plan and organisational work health and safety (WHS) and consultation procedures.
6	**Monitor implementation of change**	6.1	Maintain open communication channels with all stakeholders during implementation.
		6.2	Monitor KPIs during implementation.
		6.3	Encourage and facilitate improvement suggestions of team members.
		6.4	Identify areas requiring improvement in change implementation.
		6.5	Make improvements to implementation according to organisation procedures.

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Foundation Skills

This section describes those required skills (language, literacy and numeracy) 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.

Competitive systems and practices include one or more of:	• lean operations • agile operations • preventative and predictive maintenance approaches • statistical process control systems, including six sigma and three sigma • Just in Time (JIT), kanban and other pull-related operations control systems • supply, value, and demand chain monitoring and analysis • 5S • continuous improvement (kaizen) • breakthrough improvement (kaizen blitz) • cause/effect diagrams • overall equipment effectiveness (OEE) • takt time • process mapping • problem solving • run charts • standard procedures • current reality tree.
Work plan for change includes one or more of:	• timetables • KPIs • training needs • WHS implications • contingency plans

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	• responsibilities with team members and senior managers, engineers and other staff responsible for designing and/or implementing change.
Issues and concerns include one or more of:	• individual and group concerns • those expressed by and through industrial processes.
Gathering and monitoring performance data includes one or more of:	• manually by individual employees through charts, tally sheets or keypad/board entry • automatically through software, such as SCADA software, ERP systems, MRP and proprietary systems.

Unit Mapping Information

Release 1. Supersedes and is equivalent to MSS403010A Facilitate change in an organisation implementing 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

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Assessment Requirements for MSS403010 Facilitate change in an organisation implementing competitive systems and practices

Modification History

Release 1. Supersedes and is equivalent to MSS403010A Facilitate change in an organisation implementing competitive systems and practices

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 the ability, for one (1) or more changes, to:

- identify competitive systems and practices in own workplace
- identify changes to own work and work area flowing from implementation of relevant competitive systems and practices
- consult with stakeholders regarding changes and issues
- develop a strategy to implement required changes
- make suggestions for improvements.

Knowledge Evidence

Must provide evidence that demonstrates knowledge relevant to their job role sufficient to fulfil their job role independently, including:

- features of competitive operational practices in own work area
- health, safety and environment (HSE) principles and requirements for area of responsibility
- change implementation procedures
- planning and implementation strategies
- employee assistance mechanisms within organisation.

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 operation of the workplace
  - 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

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  - must include facilitating change in relation to the implementation of competitive operational practices in own work area
  - will typically include the use of appropriate tools, equipment and safety gear requiring demonstration of preparation, operation, completion and responding to problems.
- Assessment should occur in operational workplace situations.
- 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.
- Assessors must satisfy the assessor competency requirements that are in place at the time of the assessment as set by the VET regulator.
- The assessor must demonstrate both technical competency and currency.
- Technical competence can be demonstrated through:
  - relevant VET or other qualification/Statement of Attainment AND/OR
  - relevant workplace experience
- Currency can be demonstrated through:
  - performing the competency being assessed as part of current employment OR
  - having consulted with an organisation providing relevant environmental monitoring, management or technology services about performing the competency being assessed within the last twelve months.

Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=5b04f318-804f-4dc0-9463-c3fb9a3fe998

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MSS403011 Facilitate implementation of competitive systems and practices

Modification History

Release 1. Supersedes and is equivalent to MSS403011A Facilitate implementation of competitive systems and practices

Application

This unit of competency covers the skills and knowledge required by individuals who facilitate, lead or mentor others in competitive systems and practices implementation in a work area.

This unit applies to people responsible for facilitating others in implementing competitive systems and practices in their work. It may apply to formally designated team leaders or people given special roles in the implementation process that go beyond their own work and which involve guiding, facilitating or mentoring others. The unit applies to competitive systems and practices implementation activities at the work area or section level.

The unit requires an individual to integrate a range of competitive systems and practices knowledge and skills as part of their role. The unit covers assisting others to understand and apply a holistic view of their job and their role within an organisation, including the objectives that must be met as part of competitive systems and practices used by the organisation.

This unit requires the application of skills associated with communication, teamwork, problem solving, initiative and enterprise, planning and organising, and self-management. This unit has a strong emphasis on planning and implementation, and also requires an ability to learn from experience and feed new information back into strategies to improve own performance and that of others.

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

Pre-requisite Unit

Nil

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Competency Field

Competitive systems and practices

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	**Facilitate the development of process and competitive systems and practices knowledge**	1.1	Ensure necessary technical documentation and information about the process and competitive systems and practices is available.
		1.2	Assist and mentor others in accessing information.
		1.3	Identify work activities which may inhibit the ongoing development of competitive systems and practices skills and knowledge of others.
		1.4	Arrange for the provision of workforce development and training for self and others, as appropriate.
		1.5	Encourage others to apply technical knowledge to the improvement process.
2	**Facilitate commitment to efficiency improvements**	2.1	Ensure budgets, operating procedures and other related documentation is available.
		2.2	Assist others to apply this information to their work responsibilities.
		2.3	Encourage the identification of waste.
		2.4	Encourage an environment where efficiency improvements are recommended by fellow employees.
3	**Encourage a competitive systems and**	3.1	Encourage and, where necessary, develop communications between specialists and work group members.

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	practices approach to work	3.2	Lead development of strategies to monitor and deal with identified waste issues.
		3.3	Resource and encourage other employees to identify and take action on potential problems.
		3.4	Arrange for workforce development and training for self and others, as required, in relevant competitive systems and practice procedures and techniques.
		3.5	Guide others in relating identified problems to the maintenance strategy, and developing any required changes, to ensure awareness, learning and commitment.
4	**Implement process and organisation improvements**	4.1	Plan the implementation of work group suggestions and externally suggested improvements.
		4.2	Facilitate commitment to, and involvement in, the implementation planning of improvements and to follow improvements to their conclusion.
		4.3	Encourage the application of the 'plan, do, measure, improve, control' approach to the job.
		4.4	Arrange for workforce development and training, as required, to facilitate continued involvement by others in improvement processes.
		4.5	Involve work group and other key personnel in identification of skill needs and means of skills acquisition to fill any identified gaps.

Foundation Skills

This section describes those required skills (language, literacy and numeracy) 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

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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.

Competitive systems and practices include one or more of:	• lean operations • agile operations • preventative and predictive maintenance approaches • statistical process control systems, including six sigma and three sigma • Just in Time (JIT), kanban and other pull-related operations control systems • supply, value, and demand chain monitoring and analysis • 5S • continuous improvement (kaizen) • breakthrough improvement (kaizen blitz) • cause/effect diagrams • overall equipment effectiveness (OEE) • takt time • process mapping • problem solving • run charts • standard procedures • current reality tree.
Budgets include one or more of:	• financial • time • materials/products • other business plans which are relevant to the team and the work area.
Categories of waste include one or more of:	• excess production and early production • delays • movement and transport • poor process design • inventory • inefficient performance of a process • making defective items • activities which do not yield any benefit to the organisation or any benefit to the organisations customers.
Key reliability issues	• cleanliness

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include one or more of:	• poor lubrication • incorrect adjustment • poor training and instructions for employees.

Unit Mapping Information

Release 1. Supersedes and is equivalent to MSS403011A Facilitate implementation of 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

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Assessment Requirements for MSS403011 Facilitate implementation of competitive systems and practices

Modification History

Release 1. Supersedes and is equivalent to MSS403011A Facilitate implementation of competitive systems and practices

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 the ability, for three (3) or more organisation improvements which include the facilitation of competitive systems and practices, to:

- identify processes and products of the organisation and work area
- analyse future skill development needs of work group
- mentor effectively in a one-on-one situation
- facilitate communication between work group and external competitive systems and practices specialists and managers
- lead work group in identifying efficiency improvements and elimination of waste.

Knowledge Evidence

Must provide evidence that demonstrates knowledge relevant to their job role sufficient to fulfil their job role independently, including:

- information technology systems used in the organisation
- features of competitive operational practices in own work area
- monitoring and data gathering systems in work area (e.g. SCADA, ERP and MRP)
- methods of gathering data against key performance indicators (KPIs)
- facilitation techniques to encourage work group development and improvement.

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 operation of the workplace
  - 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

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  - must include facilitation of competitive systems and practices implementation in own workplace
  - will typically include the use of appropriate tools, equipment and safety gear requiring demonstration of preparation, operation, completion and responding to problems.
- Assessment should occur in operational workplace situations.
- 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.
- Assessors must satisfy the assessor competency requirements that are in place at the time of the assessment as set by the VET regulator.
- The assessor must demonstrate both technical competency and currency.
- Technical competence can be demonstrated through:
  - relevant VET or other qualification/Statement of Attainment AND/OR
  - relevant workplace experience
- Currency can be demonstrated through:
  - performing the competency being assessed as part of current employment OR
  - having consulted with an organisation providing relevant environmental monitoring, management or technology services about performing the competency being assessed within the last twelve months.

Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=5b04f318-804f-4dc0-9463-c3fb9a3fe998

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MSS403013 Lead team culture improvement

Modification History

Release 1. Supersedes and is equivalent to MSS403013A Lead team culture improvement

Application

This unit of competency covers the skills and knowledge required by a team leader or other person responsible for developing a culture within a team appropriate for supporting competitive systems and practices.

This unit applies where an organisation has embarked on competitive systems and practices and a team leader or other responsible person is required to change or improve the team culture to maximise the benefits from competitive systems and practices.

This unit requires the application of skills associated with communication, teamwork, problem solving, initiative and enterprise, planning and organising, and self-management in order to provide leadership in a changing team environment. This unit has a strong emphasis on planning and change management, but also requires an ability to learn from experience and feed new information back into strategies to improve performance.

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

Pre-requisite Unit

Nil

Competency Field

Competitive systems and practices

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.

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1	**Facilitate the team's understanding of the competitive systems and practices strategy**	1.1	Communicate with all team members the objectives and benefits of the competitive systems and practices strategy.
		1.2	Review with team members the techniques and methods that will be used in achieving the competitive systems and practices strategy.
		1.3	Using a systems approach, help team members understand how the team fits into the organisation.
		1.4	Establish appropriate communication and teamwork within the team and with other teams.
		1.5	Develop a work structure with the team that allows for everyone to participate in the application of the competitive systems and practices strategy.
2	**Facilitate application of knowledge about the importance of controlling variation in competitive systems and practices**	2.1	Develop the application of a statistical approach by all team members to all relevant facets of the system with a view to reducing variation.
		2.2	Encourage the approach of building quality and ensuring team members assist each other in meeting requirements.
3	**Facilitate the development of skills and knowledge within the team**	3.1	Encourage appropriate training for all team members.
		3.2	Involve team members in identification of skill needs and skill gaps, and in development of a strategy for training, skills acquisition and self-improvement so as to ensure awareness, learning and commitment.
4	**Facilitate the development of commitment within the team to the competitive systems and practices strategy**	4.1	Ensure that the team has sufficient resources and adequate equipment available to meet the requirements of the competitive systems and practices strategy.
		4.2	Encourage the adoption of continuous improvement.
		4.3	Encourage employee acceptance of responsibility for the quality of own work.

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4.4	Provide continuous feedback and communication of progress at all levels in implementing the strategy.
4.5	Involve team members in relating identified problems and opportunities for improvement to the competitive systems and practices strategy, and involve them in developing any required changes, to ensure awareness, learning and commitment.
4.6	Establish and monitor indicators of team culture.

Foundation Skills

This section describes those required skills (language, literacy and numeracy) 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.

Competitive systems and practices include one or more of:

- lean operations
- agile operations
- preventative and predictive maintenance approaches
- statistical process control systems, including six sigma and three sigma
- Just in Time (JIT), kanban and other pull-related operations control systems
- supply, value, and demand chain monitoring and analysis
- 5S
- continuous improvement (kaizen)
- breakthrough improvement (kaizen blitz)
- cause/effect diagrams
- overall equipment effectiveness (OEE)
- takt time
- process mapping
- problem solving

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	• run charts • standard procedures • current reality tree.
Systems approach includes consideration of the role and requirements of one or more of:	• customers • suppliers • employees • other value stream members • members of the public and community groups • other external individual, group or organisation • technical processes and equipment • statutory and regulatory requirements, including work health and safety (WHS) and environment legislation and regulations • quality standards.
Team culture can be monitored by one or more of:	• surveys • evaluation of toolbox or other regular meetings • direct discussion with team members • monitoring of other indicators (e.g. error rates and absenteeism) • analysis of root cause related to status of team culture.

Unit Mapping Information

Release 1. Supersedes and is equivalent to MSS403013A Lead team culture improvement

Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=5b04f318-804f-4dc0-9463-c3fb9a3fe998

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Assessment Requirements for MSS403013 Lead team culture improvement

Modification History

Release 1. Supersedes and is equivalent to MSS403013A Lead team culture 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 include the ability, for one (1) or more team culture changes, to:

- identify the competitive systems and practices used by the team
- identify changes to the work of the team flowing from the implementation of the relevant competitive systems and practices
- facilitate and monitor changes designed to improve team culture
- communicate effectively with team members providing relevant feedback.

Knowledge Evidence

Must provide evidence that demonstrates knowledge relevant to their job role sufficient to fulfil their job role independently, including:

- features of competitive operational practices in the team's work area
- principles of change management
- facilitation techniques to encourage team development and improvement.

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 is best done from a report and/or folio of evidence drawn from:
  - a single project which provides sufficient evidence of the requirements of all the elements and performance criteria
  - multiple smaller projects which together provide sufficient evidence of the requirements of all the elements and performance criteria.
- A third-party report, or similar, may be needed to testify to the work done by the individual, particularly when the project has been done as part of a project team.
- Assessment should use a real project in an operational workplace.
- Knowledge evidence may be collected concurrently with performance evidence or through an independent process such as workbooks, written assessments or interviews (provided a record is kept).

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- 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.
- Assessors must satisfy the assessor competency requirements that are in place at the time of the assessment as set by the VET regulator.
- The assessor must demonstrate both technical competency and currency.
- Technical competence can be demonstrated through:
  - relevant VET or other qualification/Statement of Attainment AND/OR
  - relevant workplace experience
- Currency can be demonstrated through:
  - performing the competency being assessed as part of current employment OR
  - having consulted with an organisation providing relevant environmental monitoring, management or technology services about performing the competency being assessed within the last twelve months.

Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=5b04f318-804f-4dc0-9463-c3fb9a3fe998

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MSS403021 Facilitate a Just in Time system

Modification History

Release 1. Supersedes and is equivalent to MSS403021A Facilitate a Just in Time system

Application

This unit of competency covers the skills and knowledge required to facilitate the implementation/operation of a Just in Time (JIT)/kanban system in a team or work area.

This unit applies to a person who needs to monitor the operation of a JIT system and facilitate its working in a team or work area. This will involve liaison with stakeholders as well as examining the data generated and being alert to potential problems and areas for improvement.

This unit requires the application of skills associated with gathering, analysing and communicating information to facilitate implementation of the JIT system. It requires planning and organising skills and has a strong emphasis on communication and teamwork skills to ensure the JIT system is being effectively implemented. This unit also requires the ability to problem solve and take the initiative to consider performance issues and learn from experience to improve future performance.

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

Pre-requisite Unit

Nil

Competency Field

Competitive systems and practices

Unit Sector

Not applicable

Elements and Performance Criteria

Elements describe the Performance criteria describe the performance needed to

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essential outcomes.		demonstrate achievement of the element.	
1	**Monitor the operation of the JIT system**	1.1	Track value of key measures.
		1.2	Recognise indicators of poor performance.
		1.3	Take appropriate quick fix action.
2	**Liaise with relevant stakeholders**	2.1	Regularly communicate with team or work group members regarding the operation of the JIT system.
		2.2	Review JIT key performance indicators (KPIs) with team or work group members.
		2.3	Communicate with relevant personnel up and down the value stream regarding the operation of the JIT system.
		2.4	Identify issues with stakeholders and take appropriate quick fix action.
3	**Improve the JIT system**	3.1	Identify areas requiring improvement in the JIT system.
		3.2	Identify root cause of JIT-related problems.
		3.3	Review value of key measures.
		3.4	Recognise skill gaps in team members and other stakeholders.
		3.5	Determine any other issues in team or work group, other stakeholders and JIT system leading to poor performance indicators.
		3.6	Develop appropriate improvement solutions.
		3.7	Liaise with relevant people regarding improvement solutions.
		3.8	Implement and/or assist with the implementation of the solutions.

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Foundation Skills

This section describes those required skills (language, literacy and numeracy) 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.

Competitive systems and practices include one or more of:	• lean operations • agile operations • preventative and predictive maintenance approaches • statistical process control systems, including six sigma and three sigma • Just in Time (JIT), kanban and other pull-related operations control systems • supply, value, and demand chain monitoring and analysis • 5S • continuous improvement (kaizen) • breakthrough improvement (kaizen blitz) • cause/effect diagrams • overall equipment effectiveness (OEE) • takt time • process mapping • problem solving • run charts • standard procedures • current reality tree.
Key measures include one or more of:	• inventory levels • lead time • In Full, On Time and In Specification (IFOTIS) delivery • productivity/production rate • other measures of pull through the value stream • quality.

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Stages where value stream actions can occur include one or more of	• sales outlet/representative • information gathering, data analysis and research • product design • raw material sourcing • intermediate processing • final assembler/collation/preparation • support services (e.g. accounting, finance and legal) • storage and delivery to customer • after market support.

Unit Mapping Information

Release 1. Supersedes and is equivalent to MSS403021A Facilitate a Just in Time system

Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=5b04f318-804f-4dc0-9463-c3fb9a3fe998

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Assessment Requirements for MSS403021 Facilitate a Just in Time system

Modification History

Release 1. Supersedes and is equivalent to MSS403021A Facilitate a Just in Time system

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 the ability, for three (3) or more JIT related improvements, to:

- identify the JIT system and practices used in own work area
- identify and monitor JIT key measures
- solve JIT-related problems to root cause
- communicate effectively with stakeholders
- facilitate and monitor JIT-related changes to operations and practices.

Knowledge Evidence

Must provide evidence that demonstrates knowledge relevant to their job role sufficient to fulfil their job role independently, including:

- 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)
- facilitation techniques to encourage work group development and improvement.

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 operation of the workplace
  - 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 facilitating the implementation of a Just in Time (JIT) system in in own workplace
  - will typically include the use of appropriate tools, equipment and safety gear requiring demonstration of preparation, operation, completion and responding to problems.

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- Assessment should occur in operational workplace situations.
- 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.
- Assessors must satisfy the assessor competency requirements that are in place at the time of the assessment as set by the VET regulator.
- The assessor must demonstrate both technical competency and currency.
- Technical competence can be demonstrated through:
  - relevant VET or other qualification/Statement of Attainment AND/OR
  - relevant workplace experience
- Currency can be demonstrated through:
  - performing the competency being assessed as part of current employment OR
  - having consulted with an organisation providing relevant environmental monitoring, management or technology services about performing the competency being assessed within the last twelve months.

Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=5b04f318-804f-4dc0-9463-c3fb9a3fe998

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MSS403040 Facilitate and improve implementation of 5S

Modification History

Release 1. Supersedes and is equivalent to MSS403040A Facilitate and improve implementation of 5S

Application

This unit of competency covers the skills and knowledge required by an individual to facilitate the implementation and improvement of the 5S by self and others in a team or work area. The facilitation may be undertaken by formally designated supervisory staff, such as team leaders or other individuals in a competitive systems and practices implementation role, who need to provide support and encouragement to others to facilitate the achievement of 5S outcomes in the workplace.

This unit requires the application of skills associated with communication, teamwork, problem solving, initiative and enterprise, planning and organising, and self-management in order to provide leadership in a 5S environment. This unit has a strong emphasis on planning and change management, but also requires an ability to learn from experience and feed new information back into strategies to improve performance.

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

Pre-requisite Unit

Nil

Competency Field

Competitive systems and practices

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.

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1	**Facilitate the set-up of 5S**	1.1	Assist others to determine what are necessary and unnecessary items in the work area.
		1.2	Assist others to determine optimum assigned location for all necessary items.
		1.3	Liaise with relevant production and work health and safety (WHS) personnel in determining optimum locations.
		1.4	Assist others to determine optimum location for unnecessary items.
		1.5	Assist others to determine 5S schedule.
		1.6	Assist others to achieve the required level of skill.
2	**Facilitate the implementation of 5S**	2.1	Ensure procedures reflect 5S practices.
		2.2	Assess skill base of team or work group members in 5S and arrange for any required training.
		2.3	Ensure that any damage and/or safety risks reported by the team or work group are addressed through correct mechanisms.
3	**Monitor 5S**	3.1	Check work area for 5S implementation as part of normal routine.
		3.2	Identify non-conformances.
		3.3	Negotiate solutions to non-conformances.
4	**Improve 5S**	4.1	Work with others to find areas for improvement.
		4.2	Assist others to develop improvement solutions.
		4.3	Facilitate the availability of resources required for the improvement solution.
		4.4	Facilitate the implementation of the improvement solution.

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Foundation Skills

This section describes those required skills (language, literacy and numeracy) 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.

Competitive systems and practices include one or more of:	• lean operations • agile operations • preventative and predictive maintenance approaches • statistical process control systems, including six sigma and three sigma • Just in Time (JIT), kanban and other pull-related operations control systems • supply, value, and demand chain monitoring and analysis • 5S • continuous improvement (kaizen) • breakthrough improvement (kaizen blitz) • cause/effect diagrams • overall equipment effectiveness (OEE) • takt time • process mapping • problem solving • run charts • standard procedures • current reality tree.
Procedures (written, verbal, visual, computer based, etc.) include one or more of:	• work instructions • standard operating procedures (SOPs) • safe work method statements • formulas/recipes • batch sheets • temporary instructions • any similar instructions provided for the smooth running of the plant.

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5S includes all of:

- sort
- set in order
- shine
- standardise
- sustain.

Sort includes all of:

- separating necessary from unnecessary items (equipment and supplies)
- keeping only what is absolutely necessary for the work processes that comprise the job
- disposing of (or relocating) all other items.

Set in order includes all of:

- assigning required equipment and materials appropriate locations in the work area
- consideration of frequency of use, ergonomics and WHS
- provision of facilities to maintain the locations.

Shine includes one or more of:

- keeping the work area clean at all times which should be carried out to a regular daily schedule against allowed time, usually at the end of the day or of a particular process
- keeping work area, including virtual work area, organised
- noting any signs of wear, damage, leakage, safety risks or other issues that require immediate attention.

Standardising includes one or more of:

- activities that help maintain the order and the 5S standards
- using procedures and checklists developed from a procedure.

Sustain includes one or more of:

- making sure that daily activities are completed every day regardless of circumstance
- undertaking inspections, including:
  - informal inspections that should be carried often, at least weekly
  - formal inspections that should be carried out at least monthly.

Items in work area include one or more of:

- office supplies
- materials
- paperwork

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	• furniture • storage systems and cabinets • lighting, wiring, plumbing and other services designed to support a working environment in the office • manuals • personal items (e.g. bags, phones, lunch boxes, clothing, photos and ornaments) • safety and personal protective equipment • any other item which happens to be in the work area.
Teams include one or more of:	• formal teams • informal teams • people working in the same area.
Target work area may be a physical and/or virtual workspace and includes one or more of:	• used by a person, a team or a cross-functional group • common to part/s of a process or value stream (already defined) • shared by people who undertake a defined procedure or set of procedures • needed to support a particular function.
Appropriate places include areas designated for one or more of:	• recycling • rubbish removal • staff room/lunch room/kitchen • office supplies, filing and other storage • functions, such as printing/copying • holding until status is confirmed.
Optimum assigned location includes:	• making changes to the layout of furniture, equipment and personnel in order to facilitate the smooth and continuous flow of work through process steps taking into account WHS considerations.
Non-conformance includes:	• incorrect or incomplete application of 5S procedures, including any daily tasks, scheduled inspections and continuous improvement procedures.

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Unit Mapping Information

Release 1. Supersedes and is equivalent to MSS403040A Facilitate and improve implementation of 5S

Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=5b04f318-804f-4dc0-9463-c3fb9a3fe998

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Assessment Requirements for MSS403040 Facilitate and improve implementation of 5S

Modification History

Release 1. Supersedes and is equivalent to MSS403040A Facilitate and improve implementation of 5S

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 the ability, in one (1) or more allocated areas, to:

- identify the scope of the services and/or functions supplied to and by the team or work area and the deliverables expected by customers, including the ultimate customer
- facilitate a systematic approach to implementing 5S
- lead and motivate others in achieving 5S outcomes and making improvements to the 5S systems
- set up systems for monitoring and improving 5S implementation
- manage non-conformances in implementation of 5S.

Knowledge Evidence

Must provide evidence that demonstrates knowledge relevant to their job role sufficient to fulfil their job role independently, including:

- principles and purpose of 5S
- methods of identifying waste in the work area, such as:
  - waste walk
  - document tagging
  - tracking/log sheets
  - spaghetti diagrams
  - existing information technology and enterprise resource systems (e.g. SCADA, ERP and MRP)
- methods of identifying and evaluating options
- work health and safety (WHS) requirements relevant to team and work areas
- processes for identifying and addressing skill gaps.

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:

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  - should occur over a range of situations which include typical disruptions to normal, smooth operation of the workplace
  - 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 implementation of 5S procedures in a work area where 5S has not previously been undertaken, or, demonstration of improving 5S application in a work area that has already undergone prior 5S procedures
  - will typically include the use of appropriate tools, equipment and safety gear requiring demonstration of preparation, operation, completion and responding to problems.
- Assessment should occur in operational workplace situations. 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.
- Assessors must satisfy the assessor competency requirements that are in place at the time of the assessment as set by the VET regulator.
- The assessor must demonstrate both technical competency and currency.
- Technical competence can be demonstrated through:
  - relevant VET or other qualification/Statement of Attainment AND/OR
  - relevant workplace experience
- Currency can be demonstrated through:
  - performing the competency being assessed as part of current employment OR
  - having consulted with an organisation providing relevant environmental monitoring, management or technology services about performing the competency being assessed within the last twelve months.

Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=5b04f318-804f-4dc0-9463-c3fb9a3fe998

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MSS403041 Facilitate breakthrough improvements

Modification History

Release 1. Supersedes and is equivalent to MSS403041A Facilitate breakthrough improvements

Application

This unit of competency covers the knowledge and skills required to facilitate implementation of discrete targeted improvement activities to achieve breakthrough improvements in selected processes, operations or products. Typically this approach is used for improvements in areas of waste identified through value stream mapping.

This unit applies to team leaders and others who are providing guidance and support to assist a team of employees to identify improvements that can be implemented to operations, processes or products in a brief intensive project.

The unit also covers ensuring that the improvements are sustained. The process of achieving breakthrough improvements is often called kaizen blitz in lean terminology.

This unit assumes that one or more processes and operations have been mapped.

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

Pre-requisite Unit

Nil

Competency Field

Competitive systems and practices

Unit Sector

Not applicable

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Elements and Performance Criteria

Elements describe the essential outcomes.		Performance criteria describe the performance needed to demonstrate achievement of the element.	
1	**Prepare for improvement event**	1.1	Engage team members in the improvement event.
		1.2	Identify process or processes to be targeted in the improvement event.
		1.3	Assist team members to identify how their own roles contribute to value to the customer.
		1.4	Assist team to identify the boundaries of the event, including any imposed exclusions.
		1.5	Identify key process indicators and other information required for improvement event.
		1.6	Identify skill needs for personnel engaged in breakthrough improvement event and arrange for any required training.
		1.7	Establish communication processes with sponsor and stakeholders.
2	**Identify improvements**	2.1	Assist team to review current processes, operations or products and identify options for radical improvements.
		2.2	Facilitate team activities and other relevant personnel to evaluate the options and agree on improvements to be made.
		2.3	Encourage and assist team and others to plan the activities and identify metrics to be monitored.
		2.4	Facilitate allocation of resources and strategies to manage impact on routine work.
3	**Facilitate the event**	3.1	Assist team to gather baseline data on the selected metrics.
		3.2	Assist team to identify and address barriers to making the improvements.
		3.3	Monitor team dynamics and facilitate team focus and

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			cooperation.
		3.4	Liaise with sponsor to communicate progress and maintain their support.
4	**Evaluate improvements**	4.1	Assist team to gather and interpret data on the metrics.
		4.2	Facilitate team activities to evaluate the outcomes of the event.
		4.3	Identify causes for areas of poor performance from changes and identify any additional changes to address them.
		4.4	Report to sponsor and other stakeholders on the outcomes of the event.
5	**Embed improvements**	5.1	Establish mechanisms to ensure new systems and/or practices are communicated to relevant personnel.
		5.2	Motivate team to apply the new systems and/or practices and sustain improvements.
		5.3	Ensure the new systems and/or practices are reflected in relevant procedures.

Foundation Skills

This section describes those required skills (language, literacy and numeracy) 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.

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Competitive systems and practices include one or more of:	• lean operations • agile operations • preventative and predictive maintenance approaches • statistical process control systems, including six sigma and three sigma • Just in Time (JIT), kanban and other pull-related operations control systems • supply, value, and demand chain monitoring and analysis • 5S • continuous improvement (kaizen) • breakthrough improvement (kaizen blitz) • cause/effect diagrams • overall equipment effectiveness (OEE) • takt time • process mapping • problem solving • run charts • standard procedures • current reality tree.
Team in this unit is any group of employees engaged in a breakthrough improvement event and includes one or more of:	• a permanent formally identified team • a sub-group of a team • a formally designated teams • an informal groups of employees • other stakeholders who may be brought together for a breakthrough improvement event • a specially established group for the breakthrough event (e.g. a combined production/administration/ logistics group convened for a breakthrough event addressing delivery issues).
Scope and benefit statements include one or more of:	• description of the business • the target work process • what key stakeholders seek from the improvement project • a mission for the event • a set of goals • a statement of the do's and don'ts for the improvement project.
Boundaries define one or more of:	• the start and end point of the process being targeted • the steps of the process to be included and excluded • specific job roles or related processes to be included or excluded • timeframe for the event.

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Breakthrough improvement (also known as kaizen blitz) is characterised by one or more of:	• using a formal process • being a discrete targeted activity that is achieved in a relatively short timeframe • delivering significant level of improvement.
Mechanisms to communicate and sustain improvements include one or more of:	• scheduled audits • regular monitoring and/or reporting activities • use of visual aids, such as targets and progress boards, process charts and procedure posters • communications, such as standing items for team meetings, email reminders or updates.
Imposed exclusions include one or more of:	• equipment excluded from efficiency or layout review because of budget constraints • regulatory requirements that do not add value • organisation requirements, policies or procedures beyond the influence of the team • other required muda.
Key process indicators include one or more of	• statistical process control data/charts • orders • lost time, injury and other work health and safety (WHS) records • equipment reliability charts.

Unit Mapping Information

Release 1. Supersedes and is equivalent to MSS403041A Facilitate breakthrough improvements

Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=5b04f318-804f-4dc0-9463-c3fb9a3fe998

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Assessment Requirements for MSS403041 Facilitate breakthrough improvements

Modification History

Release 1. Supersedes and is equivalent to MSS403041A Facilitate breakthrough improvements

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 the ability, for one (1) or more breakthrough improvement events, to:

- interpret operations, processes and products in terms of value to the customer
- identify, analyse and evaluate information from a variety of sources to identify opportunities for breakthrough improvements
- lead and motivate others in planning, implementing and sustaining improvements.

Knowledge Evidence

Must provide evidence that demonstrates knowledge relevant to their job role sufficient to fulfil their job role independently, including:

- team and organisation deliverables and processes used to achieve them
- how organisation operations and processes contribute to the value stream
- types of waste (muda) and imposed exclusions
- methods of identifying and evaluating options
- work health and safety (WHS) requirements relevant to the target work areas.

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 is best done from a report and/or folio of evidence drawn from:
  - a single project which provides sufficient evidence of the requirements of all the elements and performance criteria
  - multiple smaller projects which together provide sufficient evidence of the requirements of all the elements and performance criteria.
- A third-party report, or similar, may be needed to testify to the work done by the individual, particularly when the project has been done as part of a project team.
- Assessment should use a real project in an operational workplace.

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- Knowledge evidence may be collected concurrently with performance evidence 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.
- Assessors must satisfy the assessor competency requirements that are in place at the time of the assessment as set by the VET regulator.
- The assessor must demonstrate both technical competency and currency.
- Technical competence can be demonstrated through:
  - relevant VET or other qualification/Statement of Attainment AND/OR
  - relevant workplace experience
- Currency can be demonstrated through:
  - performing the competency being assessed as part of current employment OR
  - having consulted with an organisation providing relevant environmental monitoring, management or technology services about performing the competency being assessed within the last twelve months.
  -

Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=5b04f318-804f-4dc0-9463-c3fb9a3fe998

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MSS403085 Ensure process improvements are sustained

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 required to ensure that the gains which have been made by using improved methods, processes and/or equipment are sustained as the new baseline or standard for an area of work and so prevent regression to former practices, or digression to less efficient practices.

This unit applies to individuals working in a team or work area who have already implemented competitive systems and practices related improvements in their own work and who must work effectively with others implementing competitive systems and practices to ensure that performance improvement gains are sustained.

The unit applies to team leaders, senior operators, technicians or tradespeople who are required to mentor others and integrate the application of their technical skills with the implementation of competitive systems and practices in an organisation. Employees will be required to problem solve, show initiative, plan, organise and manage own output and development.

The unit applies to all areas of an organisation, including production, maintenance, logistics and office functions.

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

Unit Sector

Not applicable

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Elements and Performance Criteria

Elements describe the essential outcomes.		Performance criteria describe the performance needed to demonstrate achievement of the element.	
1	**Examine previous improvements**	1.1	Identify impact of previous process improvements to systems, equipment, operations or products in work area
		1.2	Identify previous improvements that have not met objectives
2	**Ensure corrective actions are implemented**	2.1	Identify corrective actions that can be taken on process improvements that have not met objectives
		2.2	Liaise with relevant people associated with the anticipated corrective action
		2.3	Obtain any required approvals
		2.4	Arrange for the supply of resources
		2.5	Check impacts of corrective action on work health and safety (WHS), quality and environmental systems in work area and take action in accordance with procedures
		2.6	Check that self and others in team or work area have required skills for corrective actions
		2.7	Monitor implementation of corrective action
		2.8	Make required adjustments
3	**Verify systems support improvement**	3.1	Verify procedures reflect improvements
		3.2	Check that training and assessment activities in team or work area reflect improvements
		3.3	Liaise with relevant people to ensure their support of the new or modified system/s
4	**Audit the change**	4.1	Determine an audit period or cycle
		4.2	Agree measures and indicators for the improvement

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Elements describe the essential outcomes.	Performance criteria describe the performance needed to demonstrate achievement of the element.
	4.3 Measure performance at agreed times using agreed measures
	4.4 Investigate causes of under-performance
	4.5 Take corrective action to improve performance
	4.6 Re-audit the improvement on an agreed basis

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 MSS403002 Ensure process improvements are sustained.

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

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Assessment Requirements for MSS403085 Ensure process improvements are sustained

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:

- identified at least 1 previous improvement that has not met objectives and identified and implemented actions to correct this without adverse impact on other areas
- conducted at least 1 audit to measure the improvement from the change.

Knowledge Evidence

There must be evidence the candidate has knowledge of:

- muda and its causes
- processes and procedures for the organisation relevant to the work area
- sustaining approaches, including poka yoke, baka yoke
- measures of performance relevant to the work area and the improvement.

Assessment Conditions

Skills must have been demonstrated in the workplace or in a simulated environment that reflects workplace conditions, contingencies, facilities, equipment and resources.

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

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MSS403086 Improve cost factors in work practices

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 required by an individual to evaluate the product or process outcomes of a team or work group in terms of their cost components and to be able to determine, in general terms, the cost impacts of alternative actions. This includes the efficient organisation of own work, and that of others in a work area or within a team, and the improvement of throughput and cycle times.

This applies to team members who will be required to problem solve, show initiative, plan, organise and manage own output and development. Decisions are made within the scope of the authority of the individual and other employees in the area or team and according to procedures.

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

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	**Analyse cost components of work area or**	1.1	Identify cost components in the product or process
		1.2	Identify costs factors under control of area or employees in the team

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Elements describe the essential outcomes.		Performance criteria describe the performance needed to demonstrate achievement of the element.
	team function	1.3 Identify causes of variability in costs
		1.4 Analyse impact of costs on production or process activities undertaken
2	**Improve cost-efficiency of processes and procedures**	2.1 Identify methods of improving productivity and reducing costs within area or team's responsibility
		2.2 Calculate cost benefit ratio of alternative methods of improving productivity and reducing costs
		2.3 Consult with all stakeholders regarding possible changes
		2.4 Recommend changes which will increase productivity and reduce cost and variability
		2.5 Implement recommended changes in consultation with stakeholders

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 MSS403030 Improve cost factors in work practices.

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

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Assessment Requirements for MSS403086 Improve cost factors in work practices

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:

- identified and analysed cost factors in work practices and made recommendations to improve costs on at least 1 occasion.

Knowledge Evidence

There must be evidence the candidate has knowledge of:

- cost components of products made
- costs concepts, including expense/capital, income and cost benefit ratios
- major cost contributors to product (including energy, materials and inputs, labour and distribution)
- difference between internally and externally controlled costs
- difference between overhead, capital, expense, labour and other consumables.
- causes of cost variances.

Assessment Conditions

Skills must have been demonstrated in the workplace or in a simulated environment that reflects workplace conditions, contingencies, facilities, equipment and resources.

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

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MSS403087 Mistake proof an operational process

Modification History

Release 1. Updated unit code. Changes to elements and performance criteria. Range of conditions removed. Assessment requirements amended. Equivalent outcome.

Application

This unit describes the skills and knowledge to analyse a process that a team is responsible for and determine methods of mistake proofing it. This includes determining, implementing and sustaining improvement activities.

The person will typically be a technical expert, team leader or be in a role where they have sufficient technical understanding of processes in their own work and that of others to be able to mistake proof the production process in their area.

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

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	**Analyse process**	1.1	Identify sources of variability and non-conformance in the process
		1.2	Identify critical control points in process
		1.3	Analyse causes of variability and non-conformance

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Elements describe the essential outcomes.		Performance criteria describe the performance needed to demonstrate achievement of the element.	
2	**Develop preventative options**	2.1	Liaise with team members and other people to develop mistake proof options for performing operation
		2.2	Test and validate mistake proofing options
3	**Implement permanent fix**	3.1	Liaise with relevant people to have systems and procedures changed to implement solution
		3.2	Liaise with relevant people to implement the solution
		3.3	Liaise with relevant people to ensure self and others in the team or work area have appropriate skills
		3.4	Follow through to ensure implementation occurs
4	**Monitor implementation**	4.1	Critically observe the implementation
		4.2	Compare the results of the implementation against the expected outcomes
		4.3	Modify solution to improve outcomes
		4.4	Confirm procedures reflect change
		4.5	Confirm training and assessment reflects change
		4.6	Audit change at agreed period or cycle
		4.7	Address any observed deviation
5	**Seek improvements**	5.1	Observe and monitor changes
		5.2	Analyse process again to ensure improvements are sustained

Foundation Skills

This section describes those language, literacy, numeracy and employment skills that are essential to performance.

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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 MSS403051 Mistake proof an operational process.

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

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Assessment Requirements for MSS403087 Mistake proof an operational process

Modification History

Release 1. Updated unit code. Changes to elements and 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:

- mistake proofed (applied baka yoke or poka yoke) to at least 1 operational process.

Knowledge Evidence

There must be evidence the candidate has knowledge of:

- baka yoke and poka yoke approaches
- factors causing variability in the process and methods of controlling it
- error causes and control options
- cost benefit analysis, feasibility, regulatory compliance and perceived value to the customer
- validation of baka yoke and poka yoke proposals.

Assessment Conditions

Skills must have been demonstrated in the workplace or in a simulated environment that reflects workplace conditions, contingencies, facilities, equipment and resources.

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

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MSS404052 Apply statistics to operational processes

Modification History

Release 1. Supersedes and is equivalent to MSS404052A Apply statistics to operational processes

Application

This unit covers the ability to gather and analyse process data to support the control of processes and operations. It includes interpretation of sampling procedures, frequency distributions, random and non-random variations in data/control charts; use of control limits to determine whether or not monitored processes are in control; and communicating this information to others.

This unit applies to a person working in an organisation applying statistical process control on processes or operations. The statistical process control will usually be used to monitor the processes or operations and determine when action needs to be taken. The appropriate action will then be taken in accordance with standard procedures.

This unit primarily requires the application of skills associated with gathering and analysing data and communicating statistical information to others. This unit also has a strong emphasis on problem solving, initiative and enterprise, planning and organising, and self-management to solve problems and manage processes.

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

Pre-requisite Unit

Nil

Competency Field

Competitive systems and practices

Unit Sector

Not applicable

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Elements and 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	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 appropriate control chart.
		2.2	Distinguish between random and non-random patterns of results.
		2.3	Identify results outside the control limits.
		2.4	Recognise situations requiring action.
		2.5	Take action in accordance with procedures.
		2.6	Determine cost of non-conformance.
3	**Calculate control limits**	3.1	Consult relevant stakeholders to determine appropriate limits.
		3.2	Use relevant methods to calculate/revise control limits.
		3.3	Plot limits on control chart and complete other records in accordance with procedures.
		3.4	Explain impact of limit to relevant stakeholders.

Foundation Skills

This section describes those required skills (language, literacy and numeracy) that are essential to performance.

Foundation skills essential to performance are explicit in the performance criteria of this unit of competency.

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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.

Competitive systems and practices include one or more of:

- lean operations
- agile operations
- preventative and predictive maintenance approaches
- statistical process control systems, including six sigma and three sigma
- Just in Time (JIT), kanban and other pull-related operations control systems
- supply, value, and demand chain monitoring and analysis
- 5S
- continuous improvement (kaizen)
- breakthrough improvement (kaizen blitz)
- cause/effect diagrams
- overall equipment effectiveness (OEE)
- takt time
- process mapping
- problem solving
- run charts
- standard procedures
- current reality tree.

Sampling schemes include one or more of:

- sampling for attributes or sampling for variables
- batch, continuous or custom made products
- type of sample
- size of sample
- number of items/samples
- number/type of measurements to be done on each sample
- timing of sampling
- location of sampling points
- sampling equipment
- measurement/testing equipment/methods.

Checking, analysing and storing data includes one or more of:

- calculating means, ranges, mean of means and standard deviations (using appropriate calculation aids)
- entering data into a software package
- recording data either in writing or electronically

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	• other required manipulations of the data.
Control charts include one or more of:	• run • tally • mean/range • attributes • other relevant charts.
Variations include all of:	• random variations for which no cause can be found • non-random variations for which a cause can be found and so the cause of the variation eliminated (also called identifiable cause, assignable cause or special cause) • non-random variations used to predict possible breaches of the control limits.
Limits include one or more of:	• control limits (also referred to as process capability) within which the process will operate if it is 'under control' • appropriate limits: 1 sigma warning limits, 2 sigma warning limits, 3 sigma control limits, and 6 sigma limits.
Costs of non-conformance include one or more of:	• reprocessing/rework • expediting • unplanned service • excess inventory • complaint handline • downtime • returns • scrap • labour costs • material costs • infrastructure costs/overhead • utility costs.
Procedures (written, verbal, visual, computer based, etc.) include one or any combination of:	• work instructions • standard operating procedures (SOPs) • safe work method statements • formulas/recipes • batch sheets • temporary instructions • any similar instructions provided for the smooth running of

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the process.

Unit Mapping Information

Release 1. Supersedes and is equivalent to MSS404052A 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

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Assessment Requirements for MSS404052 Apply statistics to operational processes

Modification History

Release 1. Supersedes and is equivalent to MSS404052A Apply statistics to operational processes

Performance Evidence

Evidence required to demonstrate competency in this unit must be relevant to and satisfy all of the requirements of the elements and performance criteria under the specified conditions of assessment and must include on two (2) or more occasions:

- gathering, analysing and interpreting process data to support the control of processes and operations
- applying specified sampling procedures
- investigating the causes of variation in a process
- communicating with other employees to obtain samples/data and to explain results and limits
- calculating and plotting data and control limits
- completing other required documentation.

Knowledge Evidence

Must provide evidence that demonstrates knowledge relevant to their job role sufficient to fulfil their job role independently, including:

- purpose of sampling and measurement
- sampling methods to be used
- methods of calculating means, standard deviations and the like 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/product and for different purposes
- process causes of variation and typical cause types of non-random variation
- non-process (e.g. measurement) causes of variation
- recognition of stable and unstable processes
- causes of stability/instability in the process
- calculation of control limits/process capability and the applications of different control limits
- the standard distribution curve and confidence limits.

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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 operation of the workplace
  - 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 application of statistics to an operational process in own workplace
  - will typically include the use of appropriate tools, equipment and safety gear requiring demonstration of preparation, operation, completion and responding to problems.
- Assessment should occur in operational workplace situations.
- 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.
- Assessors must satisfy the assessor competency requirements that are in place at the time of the assessment as set by the VET regulator.
- The assessor must demonstrate both technical competency and currency.
- Technical competence can be demonstrated through:
  - relevant VET or other qualification/Statement of Attainment AND/OR
  - relevant workplace experience
- Currency can be demonstrated through:
  - performing the competency being assessed as part of current employment OR
  - having consulted with an organisation providing relevant environmental monitoring, management or technology services about performing the competency being assessed within the last twelve months.

Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=5b04f318-804f-4dc0-9463-c3fb9a3fe998

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MSS404060 Facilitate the use of planning software systems in a work area or team

Modification History

Release 1. Supersedes and is equivalent to MSS404060A Facilitate the use of planning software systems in a work area or team

Application

This unit of competency covers the skills and knowledge required to facilitate the use of planning software in an organisation in an individual's work area or team. These systems are known by various generic names, such as Enterprise Resource Planning (ERP), Materials Resource Planning (MRPII, MRP III etc.) or by proprietary names.

This unit applies to an individual who will access the planning software system for their own work, but will also need to provide support and organise skill development programs for their team or work group members. The individual will typically be a technical expert, team leader or be in a role where they have sufficient technical understanding of processes in their own work and that of others to be able to facilitate the use of the planning software system. The planning software system will be used routinely in the work of the team or work group.

This unit primarily requires the application of skills associated with using communication technology and supporting team use of planning software. Problem solving, initiative and enterprise, and planning and organisational skills are required to ensure that planning software is used efficiently. This requires aspects of learning and self-management to ensure own performance and that of the team.

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

Pre-requisite Unit

Nil

Competency Field

Competitive systems and practices

Unit Sector

Not applicable

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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 planning software**	1.1	Identify categories of information held by planning software.
		1.2	Identify information categories relevant to team and area processes.
		1.3	Identify range of information able to be provided to planning software by team or work group.
		1.4	Identify range of information able to be provided to team or work group by planning software.
2	**Communicate using the planning software system**	2.1	Send and receive information using planning software.
		2.2	Send and receive messages using planning software.
3	**Make decisions using planning software**	3.1	Interrogate the planning software system to find required current, historical or predicted information.
		3.2	Take actions appropriate to the information in accordance with procedures.
4	**Monitor the use of planning software**	4.1	Routinely monitor planning software information.
		4.2	Review performance and use of planning software with team.
5	**Support others to use planning software**	5.1	Regularly communicate with team or other work group members, both using planning software and face to face.
		5.2	Identify improvements required.
		5.3	Take action to implement improvements in accordance with procedures.

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Foundation Skills

This section describes those required skills (language, literacy and numeracy) 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.

Competitive systems and practices include one or more of:	• lean operations • agile operations • preventative and predictive maintenance approaches • statistical process control systems, including six sigma and three sigma • Just in Time (JIT), kanban and other pull-related operations control systems • supply, value, and demand chain monitoring and analysis • 5S • continuous improvement (kaizen) • breakthrough improvement (kaizen blitz) • cause/effect diagrams • overall equipment effectiveness (OEE) • takt time • process mapping • problem solving • run charts • standard procedures • current reality tree.
Planning software integrates a range of business information including one or	• sales/order taking • finance/accounting • logistics • maintenance • human resources

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more of:	• production.
Information and message categories include one or more of:	• orders • production/operations processes • scheduling (e.g. daily/weekly) • finance and accounting • human resources (e.g. rosters, reserves, training completed and scheduled) • quality requirements • customers • suppliers.
Stages where value stream actions occur include one or more of:	• sales outlet/representative • information gathering, data analysis and research • product design • raw material sourcing • intermediate processing • final assembler/collation/preparation • support services (e.g. accounting, finance and legal) • storage and delivery to customer • after market support.

Unit Mapping Information

Release 1. Supersedes and is equivalent to MSS404060A Facilitate the use of planning software systems in a work area or team

Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=5b04f318-804f-4dc0-9463-c3fb9a3fe998

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Assessment Requirements for MSS404060 Facilitate the use of planning software systems in a work area or team

Modification History

Release 1. Supersedes and is equivalent to MSS404060A Facilitate the use of planning software systems in a work area or team

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 the ability, to facilitate and/or provide support on three (3) or more occasions, to:

- identify team or work group area information requirements and relate to planning software categories
- lead and motivate others in using planning software
- ensure information sent to planning software is accurate and appropriate
- obtain regular and one-off information from planning software
- make decisions using planning software generated information.

Knowledge Evidence

Must provide evidence that demonstrates knowledge relevant to their job role sufficient to fulfil their job role independently, including:

- hierarchy of planning software system and operation
- information available from/through the planning software system
- query facilities and information analysis capabilities offered by planning software
- support/training/skill development mechanisms available for access by team members.

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 operation of the workplace
  - 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 facilitating and/or support for teams or work groups using planning software systems in own workplace

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    - will typically include the use of appropriate tools, equipment and safety gear requiring demonstration of preparation, operation, completion and responding to problems.
- Assessment should occur in operational workplace situations.
- 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.
- Assessors must satisfy the assessor competency requirements that are in place at the time of the assessment as set by the VET regulator.
- The assessor must demonstrate both technical competency and currency.
- Technical competence can be demonstrated through:
    - relevant VET or other qualification/Statement of Attainment AND/OR
    - relevant workplace experience
- Currency can be demonstrated through:
    - performing the competency being assessed as part of current employment OR
    - having consulted with an organisation providing relevant environmental monitoring, management or technology services about performing the competency being assessed within the last twelve months.

Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=5b04f318-804f-4dc0-9463-c3fb9a3fe998

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MSS404081 Undertake proactive maintenance analyses

Modification History

Release 1. Supersedes and is equivalent to MSS404081A Undertake proactive maintenance analyses

Application

This unit of competency covers the skills and knowledge required to undertake the most common forms of analyses associated with predictive/preventative/reliability centred maintenance strategies.

This unit applies to a technical expert (usually an engineer, technician or tradesperson) who is required to undertake analyses for the purpose of predictive/preventative/reliability centred maintenance as part of a competitive systems and practices strategy.

This unit primarily requires the application of skills associated with communication, teamwork, problem solving, initiative and enterprise, and planning and organising in order to undertake maintenance analyses. This is normally done in the context of using computer technology, and requires aspects of learning and self-management to ensure team involvement and facilitation of learning.

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

Pre-requisite Unit

Nil

Competency Field

Competitive systems and practices

Unit Sector

Not applicable

Elements and Performance Criteria

Elements describe the	Performance criteria describe the performance needed to

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essential outcomes.		demonstrate achievement of the element.	
1	**Liaise with operator**	1.1	Establish a relationship with the operator of equipment/plant.
		1.2	Ensure the operator has the required skills and resources to keep the equipment/plant clean.
		1.3	Ensure the operator is able to effectively monitor the operation of the equipment/plant.
		1.4	Regularly communicate with operator about the overall equipment effectiveness (OEE) of their equipment/plant.
		1.5	Involve operator, team leader and other key personnel in identification of skill needs and means of skill acquisition to fill any identified gaps.
2	**Analyse history**	2.1	Analyse mean time between failures (MTBF) from maintenance records.
		2.2	Analyse performance data of the equipment/plant.
		2.3	Identify causes of changes to historic trends/status.
		2.4	Determine methods of ensuring causes of improvements and resolution of deterioration are locked in.
3	**Undertake failure mode effects analysis (FMEA) or similar failure effects analysis**	3.1	Undertake analysis.
		3.2	Record results of analysis.
		3.3	Investigate methods of eliminating possibility of failure and/or minimising the impact of the failure.
		3.4	Liaise with operator, team leader and other key personnel regarding possible solutions.
		3.5	Select most appropriate solution.
		3.6	Implement selected solutions.
4	**Undertake**	4.1	Obtain data for condition monitoring analysis.

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condition monitoring analysis	4.2	Interpret condition monitoring data.
	4.3	Predict required maintenance type and timing from condition monitoring data.
	4.4	Liaise with operator, team leader and other key personnel regarding implications of condition monitoring report.
	4.5	Involve team members in development of changes to maintenance strategy to ensure awareness, learning and commitment.

Foundation Skills

This section describes those required skills (language, literacy and numeracy) 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.

Competitive systems and practices include one or more of:

- lean operations
- agile operations
- preventative and predictive maintenance approaches
- statistical process control systems, including six sigma and three sigma
- Just in Time (JIT), kanban and other pull-related operations control systems
- supply, value, and demand chain monitoring and analysis
- 5S
- continuous improvement (kaizen)
- breakthrough improvement (kaizen blitz)
- cause/effect diagrams
- overall equipment effectiveness (OEE)
- takt time
- process mapping

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- problem solving
- run charts
- standard procedures
- current reality tree.

Unit Mapping Information

Release 1. Supersedes and is equivalent to MSS404081A Undertake proactive maintenance analyses

Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=5b04f318-804f-4dc0-9463-c3fb9a3fe998

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Assessment Requirements for MSS404081 Undertake proactive maintenance analyses

Modification History

Release 1. Supersedes and is equivalent to MSS404081A Undertake proactive maintenance analyses

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 the ability, for two (2) or more items of equipment/plant, to:

- identify and analyse data and other information on the historical performance of equipment
- undertake MBTF, FMEA and condition monitoring analyses
- involve operators, maintenance and other stakeholders in decisions on proactive maintenance strategies
- identify root cause of failure and deterioration in equipment performance
- select and implement failure elimination or minimisation solutions.

Knowledge Evidence

Must provide evidence that demonstrates knowledge relevant to their job role sufficient to fulfil their job role independently, including:

- cleaning needs, techniques and principles of equipment in area of responsibility
- methods of assessing operator and maintenance skill gaps and filling them
- techniques for determining MTBF or similar
- techniques for undertaking FMEA or similar
- principles of competitive systems and practices strategies being implemented and how to adapt them to maintenance
- root cause analysis
- techniques to analyse condition monitoring data.

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 is best done from a report and/or folio of evidence drawn from:
    - a single project which provides sufficient evidence of the requirements of all the elements and performance criteria

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  - multiple smaller projects which together provide sufficient evidence of the requirements of all the elements and performance criteria.
- A third-party report, or similar, may be needed to testify to the work done by the individual, particularly when the project has been done as part of a project team.
- Assessment should use a real project in an operational workplace.
- Knowledge evidence may be collected concurrently with performance evidence 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.
- Assessors must satisfy the assessor competency requirements that are in place at the time of the assessment as set by the VET regulator.
- The assessor must demonstrate both technical competency and currency.
- Technical competence can be demonstrated through:
  - relevant VET or other qualification/Statement of Attainment AND/OR
  - relevant workplace experience
- Currency can be demonstrated through:
  - performing the competency being assessed as part of current employment OR
  - having consulted with an organisation providing relevant environmental monitoring, management or technology services about performing the competency being assessed within the last twelve months.

Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=5b04f318-804f-4dc0-9463-c3fb9a3fe998

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MSS404082 Assist in implementing a proactive maintenance strategy

Modification History

Release 1. Supersedes and is equivalent to MSS404082A Assist in implementing a proactive maintenance strategy

Application

This unit of competency covers the skills and knowledge required by a maintenance person to assist in the implementation of a proactive maintenance strategy in an organisation. This unit includes the interaction between a maintenance worker and operators, as appropriate.

This unit applies to a maintenance person in an organisation that has adopted or is implementing total preventative/productive maintenance (TPM), reliability centred maintenance (RCM) or similar strategies. As part of this, the maintenance person is expected to assist in the implementation by determining appropriate maintenance related schedules and also by providing maintenance related assistance to non-maintenance personnel, such as assisting production personnel to fulfil their role in the TPM/RCM strategy.

This unit requires the application of skills associated with problem solving and initiative and enterprise in order to analyse maintenance requirements. Communication, teamwork and planning and organising skills will be required to implement reliability strategies. This requires aspects of self-management to ensure improvement of own performance and learning.

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

Pre-requisite Unit

Nil

Competency Field

Competitive systems and practices

Unit Sector

Not applicable

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Elements and Performance Criteria

Elements describe the essential outcomes.		Performance criteria describe the performance needed to demonstrate achievement of the element.	
1	**Develop components of reliability strategy for a work/plant area**	1.1	Determine manufacturer's recommended inspection, servicing and related schedules for relevant plant.
		1.2	Consult with relevant people with regard to appropriate inspections, services and schedules.
		1.3	Discuss any conflicts with relevant people and seek resolution of conflicts.
		1.4	Develop schedules in liaison with relevant people.
		1.5	Identify inspections and servicing which may be done by operations personnel in liaison with relevant stakeholders.
2	**Assess current practice for maintenance implications**	2.1	Identify the overall equipment effectiveness (OEE) or other organisation targets for equipment/plant.
		2.2	Evaluate procedures for plant/equipment reliability implications.
		2.3	Discuss current practices with relevant people to determine any plant/equipment reliability implications.
		2.4	Recommend changes to improve plant/equipment reliability in accordance with procedures.
3	**Assist in implementing the reliability strategy**	3.1	Arrange for schedules to be incorporated in relevant work plans.
		3.2	Identify training needs in discussion with relevant personnel.
		3.3	Assist personnel to develop required skills for inspections/ servicing within scope of authority.
		3.4	Collect data/information as required by own work plan.
		3.5	Compare data/information with performance indicators.
		3.6	Recommend improvements to reliability strategy in

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accordance with procedures.

Foundation Skills

This section describes those required skills (language, literacy and numeracy) 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.

Competitive systems and practices include one or more of:	• lean operations • agile operations • preventative and predictive maintenance approaches • statistical process control systems, including six sigma and three sigma • Just in Time (JIT), kanban and other pull-related operations control systems • supply, value, and demand chain monitoring and analysis • 5S • continuous improvement (kaizen) • breakthrough improvement (kaizen blitz) • cause/effect diagrams • overall equipment effectiveness (OEE) • takt time • process mapping • problem solving • run charts • standard procedures • current reality tree.
Strategies include one or more of:	• mean time between failure (MTBF) which is one key measure of the effectiveness of a maintenance procedure, and is an indicator as to whether root causes are being found and resolved. If MTBF is reducing, then it is an indicator that the maintenance regime is

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	failing • failure mode and effects analysis (FMEA) which is a systematic approach that identifies potential failure modes in a system, product or equipment based operations caused by either design or operation/process deficiencies. It also identifies critical or significant design or process characteristics that require special controls to prevent or detect failure modes. FMEA is a tool used to prevent problems from occurring • industry sectors have highly adapted forms of FMEA and which may practice traditional FMEA in their routine maintenance while using another technique, such as Hazard and Operability Studies (HAZOP) for design and modification. HAZOP is a form of FMEA which has been practiced by the process industries for over 30 years and examines the implications of changes in process conditions to process stability • condition monitoring which often involves quite sophisticated monitoring of equipment, including such things as vibration monitoring, instrumental analysis of lubricating oil, and so on, to determine the current state of the equipment, monitor the change in this condition and predict when it needs servicing/maintenance to maintain reliability.
Inspection includes one or more of:	• reading dials, gauges and meters • observations, including those using sight, hearing, smell and feel • observations of product quality/faults/rejects.
Servicing includes one or more of:	• cleaning • lubricating • topping up • adjusting.
Procedures (written, verbal, visual, computer based, etc.) include one or more of:	• work instructions • standard operating procedures (SOPs) • safe work method statements • formulas/recipes • batch sheets • temporary instructions • any similar instructions provided for the smooth running of the plant.

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Unit Mapping Information

Release 1. Supersedes and is equivalent to MSS404082A Assist in implementing a proactive maintenance strategy

Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=5b04f318-804f-4dc0-9463-c3fb9a3fe998

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Assessment Requirements for MSS404082 Assist in implementing a proactive maintenance strategy

Modification History

Release 1. Supersedes and is equivalent to MSS404082A Assist in implementing a proactive maintenance strategy

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 the ability, for one (1) or more work/plant areas, to:

- source information from manuals and other technical documentation or software
- effectively communicate with users on equipment operational and maintenance history
- develop schedules for maintenance activities, including seeking technical assistance, where appropriate
- differentiate between proactive and traditional maintenance strategies.

Knowledge Evidence

Must provide evidence that demonstrates knowledge relevant to their job role sufficient to fulfil their job role independently, including:

- requirements of the proactive maintenance strategy being implemented
- operating principles and procedures for equipment/plant subject to proactive maintenance strategy
- purpose and processes for data collection in proactive maintenance strategies
- procedures relevant to own job and organisation implementation of proactive maintenance
- methods of making/recommending improvements.

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 is best done from a report and/or folio of evidence drawn from:
  - a single project which provides sufficient evidence of the requirements of all the elements and performance criteria
  - multiple smaller projects which together provide sufficient evidence of the requirements of all the elements and performance criteria.
- A third-party report, or similar, may be needed to testify to the work done by the individual, particularly when the project has been done as part of a project team.
- Assessment should use a real project in an operational workplace.

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- Knowledge evidence may be collected concurrently with performance evidence 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.
- Assessors must satisfy the assessor competency requirements that are in place at the time of the assessment as set by the VET regulator.
- The assessor must demonstrate both technical competency and currency.
- Technical competence can be demonstrated through:
  - relevant VET or other qualification/Statement of Attainment AND/OR
  - relevant workplace experience
- Currency can be demonstrated through:
  - performing the competency being assessed as part of current employment OR
  - having consulted with an organisation providing relevant environmental monitoring, management or technology services about performing the competency being assessed within the last twelve months.

Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=5b04f318-804f-4dc0-9463-c3fb9a3fe998

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MSS404084 Undertake process capability improvements

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 required to make process capability improvements, including analysing data from the process, developing improvements to eliminate variation due to assignable causes and then implementing actions.

This unit applies to a person who reviews a range of process capability data and information and makes (or arranges for) changes to be made to procedures, equipment or process and then recalculates the process capability and monitors resulting improvement actions. The person will typically be a technical expert, team leader or be in a role where they have sufficient technical understanding of processes in their own work and that of others to be able to suggest and justify process capability improvements.

Process capability may have been determined using either a six sigma or three sigma processes. This unit applies to the application of statistical methods and the determination of capability based on those methods.

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

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	**Obtain required**	1.1	Identify process for study

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Elements describe the essential outcomes.		Performance criteria describe the performance needed to demonstrate achievement of the element.	
	data	1.2	Obtain or organise process to obtain required data and information
2	**Analyse information**	2.1	Read and interpret data and determine assignable causes
		2.2	Develop possible improvements to eliminate assignable causes
		2.3	Develop process improvement proposals
3	**Improve process capability**	3.1	Obtain required authorisations to implement improvements
		3.2	Liaise with relevant people to implement improvements
		3.3	Obtain or organise required data for improved process
		3.4	Recalculate process capability
		3.5	Implement revised data collection and processing and new capability information
		3.6	Monitor improvement actions and adjust

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 MSS404050 Undertake process capability improvements.

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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

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Assessment Requirements for MSS404084 Undertake process capability improvements

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:

- planned and implemented at least 1 process capability improvement.

Knowledge Evidence

There must be evidence the candidate has knowledge of:

- data collection and manipulation techniques
- variability, normal distribution and three and six sigma limits
- type of variations:
  - random variation (no assignable cause)
  - non-random variation (which has an assignable cause).
- causes of non-random variation in the process
- approaches to reducing variability.

Assessment Conditions

Skills must have been demonstrated in the workplace or in a simulated environment that reflects workplace conditions, contingencies, facilities, equipment and resources.

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

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MSS405003 Manage a value stream

Modification History

Release 1. Supersedes and is equivalent to MSS405003A Manage a value stream

Application

This unit of competency covers the skills and knowledge required to manage an overall value stream, a supply chain or a demand chain, including close liaison with suppliers and customers. It may be applied to the managing of the chain internally/externally within an organisation.

This unit applies to a person in a senior role in an organisation, such as a manager, technical specialist or similar, who needs to manage the value/supply/demand chain on an ongoing basis to achieve the best overall contribution of valued added to their product in terms of customer benefit/features. The unit can be applied to value streams of large or small organisations and to internal and external value streams or a combination value stream.

This unit assumes that the value stream has been mapped and that the mapping is available.

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

Pre-requisite Unit

Nil

Competency Field

Competitive systems and practices

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.

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1	**Evaluate the value stream**	1.1	Identify all members in the value stream for products in area of responsibility.
		1.2	Identify value added by each member of the chain.
		1.3	Identify non-value adding steps in the value stream.
		1.4	Identify acute and chronic issues which impact on the value stream.
		1.5	Develop priority list of items for improvement.
2	**Liaise regularly with chain members**	2.1	Establish and maintain regular liaison with all chain members.
		2.2	Identify current and forecast issues with each member.
		2.3	Work with members to help them address their issues.
		2.4	Build trust and confidence in the relationship.
		2.5	Develop with each chain member a priority list of items for improvement.
		2.6	Negotiate with all chain members to ensure improvements benefit chain members and improve the benefits/features perceived by the ultimate customer.
3	**Monitor the value added at each step**	3.1	Identify changes in value added by each chain member.
		3.2	Identify areas where changes to value added are required.
		3.3	Develop a priority list of required value-added changes.
		3.4	Work with chain member to bring about improvements to value added.
4	**Continue to reduce muda (waste)**	4.1	Identify muda (waste) in value stream.
		4.2	Work with chain members to continually reduce muda.

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Foundation Skills

This section describes those required skills (language, literacy and numeracy) 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.

Competitive systems and practices include one or more of:	• lean operations • agile operations • preventative and predictive maintenance approaches • statistical process control systems, including six sigma and three sigma • Just in Time (JIT), kanban and other pull-related operations control systems • supply, value, and demand chain monitoring and analysis • 5S • continuous improvement (kaizen) • breakthrough improvement (kaizen blitz) • cause/effect diagrams • overall equipment effectiveness (OEE) • takt time • process mapping • problem solving • run charts • standard procedures • current reality tree.
Customer requirement stages where value stream actions may occur include one or more of:	• sales outlet/representative • information gathering, data analysis and research • product design • raw material sourcing • intermediate processing • final assembler/collation/preparation • support services (e.g. accounting, finance and legal) • storage and delivery to customer

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	• after market support.
Value-added as perceived by the customer includes one or more of:	• technical benefits/features • location benefits/features • aesthetic benefits/features • information benefits/features.
Techniques for value stream mapping include one or more of:	• hard copy (e.g. paper or whiteboard) • appropriate software tools • expert group • participation by gemba representatives • participation by all impacted personnel.
Muda (waste) includes all of:	• excess production and early production • delays • movement and transport • poor process design • inventory • inefficient performance of a process • making defective items • activities which do not yield any benefit to the organisation or any benefit to the organisation's customers.

Unit Mapping Information

Release 1. Supersedes and is equivalent to MSS405003A Manage a value stream

Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=5b04f318-804f-4dc0-9463-c3fb9a3fe998

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Assessment Requirements for MSS405003 Manage a value stream

Modification History

Release 1. Supersedes and is equivalent to MSS405003A Manage a value stream

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 the ability to manage one (1) or more value streams and to:

- evaluate the performance of a value stream, its members and steps
- liaise regularly with value chain members to help them, and the value chain performance, to improve
- monitor value added and muda at each step to increase value added and reduce muda.

Knowledge Evidence

Must provide evidence that demonstrates sufficient knowledge to interact with relevant personnel and be able to manage a value stream including knowledge of:

- customer perception of value added and muda
- the process(es) covered by the value stream
- performance indicators for each value stream step
- value stream analysis and mapping
- methods of reducing muda/increasing perceived value added
- upstream and downstream components of the value stream which are beyond the individuals scope of authority to manage.

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 operation of the workplace
  - will typically include a supervisor, 360 degree or other third-party report focussing on consistent performance and problem recognition and solving. A 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 managing a value stream in own workplace
  - will typically include the use of appropriate tools, equipment and safety gear requiring demonstration of preparation, operation, completion and responding to problems.

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- Assessment should occur in operational workplace situations.
- 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.
- Assessors must satisfy the assessor competency requirements that are in place at the time of the assessment as set by the VET regulator.
- The assessor must demonstrate both technical competency and currency.
- Technical competence can be demonstrated through:
  - relevant VET or other qualification/Statement of Attainment AND/OR
  - relevant workplace experience
- Currency can be demonstrated through:
  - performing the competency being assessed as part of current employment OR
  - having consulted with an organisation providing relevant environmental monitoring, management or technology services about performing the competency being assessed within the last twelve months.

Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=5b04f318-804f-4dc0-9463-c3fb9a3fe998

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MSS405012 Manage workplace learning

Modification History

Release 1. Supersedes and is equivalent to MSS405012A Manage workplace learning

Application

This unit of competency covers the ability to manage learning and skill development for employees within an organisation implementing competitive systems and practices. The unit includes effective communication, teamwork, and problem solving skills, initiative and enterprise in order to assess and address skill needs for an individual and organisation. Planning and organising is required to ensure that skill development meets the needs of the organisation; and aspects of self-management and learning are required to ensure improvement of performance.

This unit of competency applies to people with responsibility for managing the identification of skills required by employees to participate in implementing competitive systems and practices; and arranging any associated learning. The unit does not cover trainer and assessor skills.

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

Pre-requisite Unit

Nil

Competency Field

Competitive systems and practices

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	**Determine**	1.1	Establish range and stage of implementation of

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	current skill requirements for employees		competitive systems and practices techniques in the organisation.
		1.2	Consult with relevant stakeholders on skill requirements for effective implementation of competitive systems and practices techniques used in the organisation.
		1.3	Ensure records/database of skill mix currently required by employees are maintained in accordance with procedures.
		1.4	Re-assess and monitor the skills required by employees as organisation requirements change.
		1.5	Consult with relevant stakeholders to predict any new/different skill requirements arising from changes to products, processes, equipment or work organisation.
2	**Determine current skill mix of employees**	2.1	Ensure current records/database of skill profile of individuals are maintained.
		2.2	Consult with relevant stakeholders and monitor the application of these skills in the workplace to ensure they remain current and valid.
		2.3	Compare the actual and required skill mix for employees.
3	**Make arrangements for skill development**	3.1	Consult with employees and identify any mismatch between skills possessed and used and skills required.
		3.2	Identify any new skills required due to anticipated changes.
		3.3	Consult with relevant stakeholders to determine the best way to refresh existing skills/develop new skills.
		3.4	Develop individual skill development programs.
		3.5	Ensure skill development arrangements are implemented in accordance with procedures.
4	**Forecast possible**	4.1	Examine strategic directions of organisation.

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future skill needs	4.2	Discuss possible future directions with relevant stakeholders.
	4.3	Determine possible long-term future skill requirements in consultation with relevant stakeholders.
	4.4	Develop plan to ensure skills are developed in advance of when they are required.

Foundation Skills

This section describes those required skills (language, literacy and numeracy) 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.

Competitive systems and practices include one or more of:

- lean operations
- agile operations
- preventative and predictive maintenance approaches
- statistical process control systems, including six sigma and three sigma
- Just in Time (JIT), kanban and other pull-related operations control systems
- supply, value, and demand chain monitoring and analysis
- 5S
- continuous improvement (kaizen)
- breakthrough improvement (kaizen blitz)
- cause/effect diagrams
- overall equipment effectiveness (OEE)
- takt time
- process mapping
- problem solving
- run charts
- standard procedures

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- current reality tree.

Stakeholders include one or more of:

- team members
- personnel officers
- industrial officers
- union delegates
- production management
- human relations management
- financial management
- engineering/technical personnel.

Skill development arrangements include one or more of:

- formal vocational and education delivery by a registered training provider (RTO)
- education and training delivery by a higher education provider
- non-accredited on and off-the-job training by the organisation, equipment suppliers, industry associations, and so on
- coaching and mentoring
- self-directed learning
- arrangements for recording skills gained by employees.

Procedures (written, verbal, visual, computer based, etc.) include one or any combination of:

- work instructions
- standard operating procedures (SOPs)
- safe work method statements
- 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 MSS405012A Manage workplace learning

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Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=5b04f318-804f-4dc0-9463-c3fb9a3fe998

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Assessment Requirements for MSS405012 Manage workplace learning

Modification History

Release 1. Supersedes and is equivalent to MSS405012A Manage workplace learning

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 the ability, for one (1) or more workplace areas or workgroups, to:

- identify the processes used and scope of products/services supplied by the organisation and the deliverables expected by customers
- relate processes and products/services to the competitive systems and practices implementation process and the stage of implementation
- establish skill needs from processes/products and competitive implementation process in the organisation
- use formal and informal channels of communication, including feedback mechanisms to assist in identification of skill needs
- manage delivery and recording of training to ensure required skills are gained by employees.

Knowledge Evidence

Must provide evidence that demonstrates sufficient knowledge to interact with relevant personnel and be able to manage workplace learning, including knowledge of:

- features and benefits of common competitive operational practices in own workplace
- skills analysis methods and how to access skill analysis from relevant experts
- skill development methods and how to access skill development programs from relevant experts
- electronic and other systems to record and maintain training and skills records
- formal qualifications and units of competency relevant to competitive systems and practices and the processes and products of the organisation
- current processes and principles of operation sufficient to enable communication with others on the impact of competitive operational changes
- sources of data on the processes and/or products of the organisation and implications for workplace learning.

Assessment Conditions

- The unit should be assessed holistically and the judgement of competence shall be based on a holistic assessment of the evidence.

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- The collection of performance evidence is best done from a report and/or folio of evidence drawn from:
  - a single project which provides sufficient evidence of the requirements of all the elements and performance criteria
  - multiple smaller projects which together provide sufficient evidence of the requirements of all the elements and performance criteria.
- A third-party report, or similar, may be needed to testify to the work done by the individual, particularly when the project has been done as part of a project team.
- Assessment should use a real project where managing workplace learning occurs in an operational workplace.
- Knowledge evidence may be collected concurrently with performance evidence 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.
- Assessors must satisfy the assessor competency requirements that are in place at the time of the assessment as set by the VET regulator.
- The assessor must demonstrate both technical competency and currency.
- Technical competence can be demonstrated through:
  - relevant VET or other qualification/Statement of Attainment AND/OR
  - relevant workplace experience
- Currency can be demonstrated through:
  - performing the competency being assessed as part of current employment OR
  - having consulted with an organisation providing relevant environmental monitoring, management or technology services about performing the competency being assessed within the last twelve months.

Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=5b04f318-804f-4dc0-9463-c3fb9a3fe998

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MSS405022 Design a process layout

Modification History

Release 1. Supersedes and is equivalent to MSS405022A Design a process layout

Application

This unit of competency covers the skills and knowledge required to design a process layout, typically a cellular flow, for either a jobbing shop or a continuous process manufacturer. This unit provides the skill for a technical expert to apply the principles of competitive systems and practices to process design layout as distinct from volume production layout. While the application of the unit may be for an initial layout, in many cases it is likely to be for the redesign of an existing layout.

The unit is written on the assumption that there is an existing process. Where this is not the case, then additional competency in equipment/process design and selection will also be required through units from an appropriate technical qualification or Training Package.

This unit requires the application of skills associated with problem solving, initiative, enterprise, planning and organising in order to design a process for the manufacture of enterprise products that incorporates team operations, product flow, infrastructure and the layout of the physical environment and related technology. This unit has a strong emphasis on gathering, analysing and applying information.

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

Pre-requisite Unit

Nil

Competency Field

Competitive systems and practices

Unit Sector

Not applicable

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Elements and Performance Criteria

Elements describe the essential outcomes.		Performance criteria describe the performance needed to demonstrate achievement of the element.	
1	**Identify the products and processes used in the organisation**	1.1	Obtain or develop a process map of the existing process.
		1.2	Identify all/main products/classes of products.
		1.3	Obtain forecast sales and sales pattern of products/classes.
		1.4	Obtain profiles of products/classes.
		1.5	Group the products/classes into compatible families.
2	**Engineer the process**	2.1	Make a preliminary selection of required equipment/technology/ process for each process or product family.
		2.2	Estimate required resource times for each family.
		2.3	Calculate total resourcing required for each family.
		2.4	Estimate appropriate lot size.
		2.5	Determine viability of proposed families.
		2.6	Examine draft proposal for possible improvements in process consistent with the competitive systems and practices strategy of the organisation.
3	**Design the infrastructure**	3.1	Consult on layout needs with all stakeholders.
		3.2	Identify physical infrastructure required by system.
		3.3	Identify information and control infrastructure required.
		3.4	Identify work organisation required.
		3.5	Identify work health and safety (WHS) and other regulatory requirements to be taken into account.
		3.6	Identify workforce development and training requirements.

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		3.7	Check the availability of required infrastructure and compatibility with requirements.
4	**Lay out the process**	4.1	Draft proposed process flow map.
		4.2	Draft proposed configuration diagram.
		4.3	Draft proposed space plan/layout.
		4.4	Check availability of services/structural suitability, as appropriate.
		4.5	Validate proposed layout with all relevant stakeholders.
		4.6	Layout the process/work cell.
		4.7	Develop implementation plan in liaison with relevant stakeholders.
		4.8	Review layout after implementation.

Foundation Skills

This section describes those required skills (language, literacy and numeracy) 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.

Competitive systems and practices include one or more of:	• lean operations • agile operations • preventative and predictive maintenance approaches • statistical process control systems, including six sigma and three sigma • Just in Time (JIT), kanban and other pull-related operations

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control systems
- supply, value, and demand chain monitoring and analysis
- 5S
- continuous improvement (kaizen)
- breakthrough improvement (kaizen blitz)
- cause/effect diagrams
- overall equipment effectiveness (OEE)
- takt time
- process mapping
- problem solving
- run charts
- standard procedures
- current reality tree.

Profiles of products include consideration of all of:
- components/materials needed to manufacture
- equipment/technology/processes required to manufacture
- volume of activity to manufacture forecast amount
- required operations equipment/technology/processes.

Required resource times include consideration of all of:
- set-up time
- equipment time
- person time
- process time.

Lot size includes one or more of:
- external lot size
- internal lot size
- transfer batch size
- kanban size.

Viability includes consideration of all of:
- appropriate calculated processing times
- adequacy of equipment utilisation
- acceptable maintenance implications
- ability to meet WHS requirements
- ability to meet environmental requirements
- compliance with any legislative and regulatory requirements
- acceptable to stakeholders.

Stakeholders include one or more
- customers
- employees

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of:	• equipment suppliers and contractors (especially if new equipment required) • regulatory authorities • local community representatives • utilities (e.g. water and power).
Physical infrastructure includes one or more of:	• containers/packaging • material handling equipment (e.g. pipes, tanks, conveyors and hoppers) • utilities supply (e.g. steam, air, gas, electricity and water).
Information and control infrastructure includes one or more of:	• quality assurance • statistical process control (SPC)/six sigma • planning systems/software • data collection and control systems/software.
Work organisation includes all of:	• number of personnel • skills/capability mix of workforce.

Unit Mapping Information

Release 1. Supersedes and is equivalent to MSS405022A Design a process layout

Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=5b04f318-804f-4dc0-9463-c3fb9a3fe998

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Assessment Requirements for MSS405022 Design a process layout

Modification History

Release 1. Supersedes and is equivalent to MSS405022A Design a process layout

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 the ability to design a layout for one (1) or more processes and to:

- identify products and processes
- engineer the process
- design the infrastructure
- lay out the process.

Knowledge Evidence

Must provide evidence that demonstrates sufficient knowledge to interact with relevant personnel and be able to design a process layout, including knowledge of:

- customer requirements in terms of order size and order pattern
- processing requirements for products
- equipment capabilities and reliability
- workforce capabilities and reliability
- business requirements from layout
- work health and safety (WHS) and other regulatory requirements
- principles of process layout.

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 is best done from a report and/or folio of evidence drawn from:
  - a single project which provides sufficient evidence of the requirements of all the elements and performance criteria
  - multiple smaller projects which together provide sufficient evidence of the requirements of all the elements and performance criteria.
- A third-party report, or similar, may be needed to testify to the work done by the individual, particularly when the project has been done as part of a project team.
- Assessment should use a real process layout project for an operational workplace.

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- Knowledge evidence may be collected concurrently with performance evidence 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.
- Assessors must satisfy the assessor competency requirements that are in place at the time of the assessment as set by the VET regulator.
- The assessor must demonstrate both technical competency and currency.
- Technical competence can be demonstrated through:
  - relevant VET or other qualification/Statement of Attainment AND/OR
  - relevant workplace experience
- Currency can be demonstrated through:
  - performing the competency being assessed as part of current employment OR
  - having consulted with an organisation providing relevant environmental monitoring, management or technology services about performing the competency being assessed within the last twelve months.

Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=5b04f318-804f-4dc0-9463-c3fb9a3fe998

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MSS405030 Optimise cost of a product or service

Modification History

Release 1. Supersedes and is equivalent to MSS405030A Optimise cost of a product or service

Application

This unit of competency covers the skills and knowledge required to examine the costs of a product or service and determine methods of reducing costs. This unit applies to an individual a who is required to undertake a detailed study of a product or service's costs, including analysing it by its cost components to determining the best method of lowering the cost overall. This unit differs from *MSS405031 Undertake value analysis of a product or process costs in terms of customer requirements*, in that it looks at all costs, including overheads and takes a wider and more traditional approach to the cost of the product. Information and cost reduction strategies gained from the application of this unit may support other cost approaches in the enterprise, including value stream costing.

This unit primarily requires the application of skills associated with communication in gathering, analysing and applying information. Problem solving, initiative and enterprise, and planning and organising are required to calculate cost components and determine cost optimisation strategies. This unit also requires aspects of self-management and learning to ensure feedback and new learning is integrated into costing methods.

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

Pre-requisite Unit

Nil

Competency Field

Competitive systems and practices

Unit Sector

Not applicable

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Elements and Performance Criteria

Elements describe the essential outcomes.		Performance criteria describe the performance needed to demonstrate achievement of the element.	
1	**Analyse total cost components of a product or service**	1.1	Identify all cost components of product or service.
		1.2	Allocate cost components to major categories, such as overhead, depreciation, energy, consumables and labour.
		1.3	Distinguish between costs which directly deliver customer features/benefits and muda (waste).
2	**Optimise costs**	2.1	Analyse causes of costs which lead to customer features/benefit.
		2.2	Determine methods of increasing the customer benefit/cost ratio.
		2.3	Analyse causes of muda costs.
		2.4	Determine methods of reducing/eliminating muda costs.
		2.5	Analyse interactions between cost components.
		2.6	Check that one method of reducing costs does not cause an increase in another cost/reduction in consumer benefit.
		2.7	Check that cost reduction plans do not reduce required levels of regulatory compliance or work health and safety (WHS).
3	**Implement cost optimisation**	3.1	Develop cost optimisation plans.
		3.2	Negotiate with relevant people to agree on implementation plans.
		3.3	Take actions to implement the cost optimisation.
		3.4	Monitor the implementation of the cost optimisation.
		3.5	Make adjustments to the plan, as required.

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Foundation Skills

This section describes those required skills (language, literacy and numeracy) 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.

Competitive systems and practices include one or more of:

- lean operations
- agile operations
- preventative and predictive maintenance approaches
- statistical process control systems, including six sigma and three sigma
- Just in Time (JIT), kanban and other pull-related operations control systems
- supply, value, and demand chain monitoring and analysis
- 5S
- continuous improvement (kaizen)
- breakthrough improvement (kaizen blitz)
- cause/effect diagrams
- overall equipment effectiveness (OEE)
- takt time
- process mapping
- problem solving
- run charts
- standard procedures
- current reality tree.

Muda (waste) includes all of:

- excess production and early production
- delays
- movement and transport
- poor process design
- inventory
- inefficient performance of a process
- making defective items
- activities which do not yield any benefit to the organisation or any

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benefit to the organisations customers.

Cost includes all of:

- the monetary value of expenditures able to be directly identified for supplies, services, direct labour, materials, components, cost of inventory, faults and reworks, rejects/scrap, equipment and other items used in the production of the product
- allocations and estimates for indirect costs (e.g. indirect labour, rent, energy, water and cost of capital) where a direct monetary value cannot be identified.

Cost optimisation plans include all of:

- application scope (e.g. product/s, services, areas, employees and suppliers included in plan)
- target costs and target cost reductions
- implementation period
- method of monitoring
- method of communicating progress to stakeholders.

Unit Mapping Information

Release 1. Supersedes and is equivalent to MSS405030A Optimise cost of a product or service

Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=5b04f318-804f-4dc0-9463-c3fb9a3fe998

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Assessment Requirements for MSS405030 Optimise cost of a product or service

Modification History

Release 1. Supersedes and is equivalent to MSS405030A Optimise cost of a product or service

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 the ability to optimise costs for one (1) or more products or services and to:

- analyse all cost components
- optimise costs and minimise muda
- implement the cost optimisation.

Knowledge Evidence

Must provide evidence that demonstrates sufficient knowledge to interact with relevant personnel and be able to optimise costs, including knowledge of:

- cost component categories
- methods of allocating indirect costs and their implications
- expressing customer perceived benefit in cost or dollar value terms
- major controllable costs for the organisation, and how to control them
- types of muda and how to reduce it
- benefit cost/ratios, their determination and application.

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 is best done from a report and/or folio of evidence drawn from:
  - a single project which provides sufficient evidence of the requirements of all the elements and performance criteria
  - multiple smaller projects which together provide sufficient evidence of the requirements of all the elements and performance criteria.
- A third-party report, or similar, may be needed to testify to the work done by the individual, particularly when the project has been done as part of a project team.
- Assessment should use a real cost optimisation project for an operational workplace.

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- Knowledge evidence may be collected concurrently with performance evidence 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.
- Assessors must satisfy the assessor competency requirements that are in place at the time of the assessment as set by the VET regulator.
- The assessor must demonstrate both technical competency and currency.
- Technical competence can be demonstrated through:
  - relevant VET or other qualification/Statement of Attainment AND/OR
  - relevant workplace experience
- Currency can be demonstrated through:
  - performing the competency being assessed as part of current employment OR
  - having consulted with an organisation providing relevant environmental monitoring, management or technology services about performing the competency being assessed within the last twelve months.

Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=5b04f318-804f-4dc0-9463-c3fb9a3fe998

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MSS405031 Undertake value analysis of product or process costs in terms of customer requirements

Modification History

Release 1. Supersedes and is equivalent to MSS405031A Undertake value analysis of product or process costs in terms of customer requirements

Application

This unit of competency covers the skills and knowledge required by an individual who is required to analyse products and processes to determine the value-adding factors, including design and processing costs that most impact on meeting customer requirements and which may also include competitor benchmarking. The unit also includes implementing identified changes that increase cost-efficiency. The unit may be applied individually or in a team environment.

In this unit an individual uses an analysis of the benefits/features which a customer perceives to be in a product or service as a basis for determining appropriate or unnecessary (muda) cost and so identifying and reducing muda (waste).

This unit primarily requires the application of skills associated with communication in gathering, analysing and applying information. Problem solving, initiative and enterprise, and planning and organising are required to determine cost-efficiencies. This unit also requires aspects of self-management and learning to ensure feedback and new learning is integrated into costing methods.

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

Pre-requisite Unit

Nil

Competency Field

Competitive systems and practices

Unit Sector

Not applicable

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Elements and Performance Criteria

Elements describe the essential outcomes.		Performance criteria describe the performance needed to demonstrate achievement of the element.	
1	**Analyse customer benefits to determine appropriate or muda (waste) costs**	1.1	Analyse product or service to determine features/benefits perceived by customer in product.
		1.2	Analyse cost components of product or service and determine those which deliver customer features/benefits and those which are either appropriate or muda.
		1.3	Determine any additional features that may be added to improve saleability.
		1.4	Analyse muda cost components and allocate to direct and indirect cost categories.
		1.5	Determine options for reducing direct and indirect muda costs.
		1.6	Select cost-related actions which maximise customer benefits and minimise costs.
		1.7	Where required, undertake competitor benchmarking to provide reference points.
2	**Analyse performance variance**	2.1	Identify muda processing or operational steps for product or service following completion of customer benefit analysis.
		2.2	Analyse all costs and determine methods of reducing costs and muda.
		2.3	Develop plan and recommendations for actions required to achieve cost improvement or added customer benefits to improve saleability.
		2.4	Submit plan and recommendations to stakeholders.

Foundation Skills

This section describes those required skills (language, literacy and numeracy) that are essential to performance.

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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.

Competitive systems and practices include one or more of:	• lean operations • agile operations • preventative and predictive maintenance approaches • statistical process control systems, including six sigma and three sigma • Just in Time (JIT), kanban and other pull-related operations control systems • supply, value, and demand chain monitoring and analysis • 5S • continuous improvement (kaizen) • breakthrough improvement (kaizen blitz) • cause/effect diagrams • overall equipment effectiveness (OEE) • takt time • process mapping • problem solving • run charts • standard procedures • current reality tree.
Muda includes all of:	• excess production and early production • delays • movement and transport • poor process design • inventory • inefficient performance of a process • making defective items • activities which do not yield any benefit to the organisation or any benefit to the organisations customers.
Cost includes all of:	• the monetary value of expenditures able to be directly identified for supplies, services, direct labour, components, cost of

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inventory, faults and reworks, rejects/scrap, equipment and other items used in the production of the product
- allocations and estimates for indirect costs (e.g. indirect labour, rent, power and water) where a direct monetary value cannot be identified.

Unit Mapping Information

Release 1. Supersedes and is equivalent to MSS405031A Undertake value analysis of product or process costs in terms of customer requirements

Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=5b04f318-804f-4dc0-9463-c3fb9a3fe998

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Assessment Requirements for MSS405031 Undertake value analysis of product or process costs in terms of customer requirements

Modification History

Release 1. Supersedes and is equivalent to MSS405031A Undertake value analysis of product or process costs in terms of customer requirements

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 the ability to undertake value analysis on one (1) or more products or processes and to:

- distinguish between appropriate costs and muda
- distinguish between direct and indirect costs
- determine methods of reducing both appropriate costs and muda
- develop a plan to increase customer perceived benefits/ saleability and/or reduce costs and muda.

Knowledge Evidence

Must provide evidence that demonstrates sufficient knowledge to interact with relevant personnel and be able to undertake value analysis, including knowledge of:

- cost components, direct and indirect costs
- customer perceived benefits
- factors influencing saleability
- impact of customer features/benefits on sales, market share and firms profitability
- major costs which are controllable (and how to control them)
- types of muda
- methods of reducing muda.

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 is best done from a report and/or folio of evidence drawn from:
  - a single project which provides sufficient evidence of the requirements of all the elements and performance criteria
  - multiple smaller projects which together provide sufficient evidence of the requirements of all the elements and performance criteria.

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- A third-party report, or similar, may be needed to testify to the work done by the individual, particularly when the project has been done as part of a project team.
- Assessment should use a real value analysis project in an operational workplace.
- Knowledge evidence may be collected concurrently with performance evidence 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.
- Assessors must satisfy the assessor competency requirements that are in place at the time of the assessment as set by the VET regulator.
- The assessor must demonstrate both technical competency and currency.
- Technical competence can be demonstrated through:
  - relevant VET or other qualification/Statement of Attainment AND/OR
  - relevant workplace experience
- Currency can be demonstrated through:
  - performing the competency being assessed as part of current employment OR
  - having consulted with an organisation providing relevant environmental monitoring, management or technology services about performing the competency being assessed within the last twelve months.

Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=5b04f318-804f-4dc0-9463-c3fb9a3fe998

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MSS405032 Analyse cost implications of maintenance strategy

Modification History

Release 1. Supersedes and is equivalent to MSS405032A Analyse cost implications of maintenance strategy

Application

This unit of competency covers the skills and knowledge required to analyse the cost implications of different maintenance strategies and to adjust or adopt a strategy to minimise or eliminate unnecessary costs. This unit applies to an individual in an organisation who is selecting or reviewing its proactive maintenance strategy. While technical factors are significant in the choice of maintenance strategy and tools, cost factors will also impact on the selection of a maintenance strategy. This unit covers the cost analysis of maintenance strategies and complements the technical analysis covered in MSS405081 Develop a proactive maintenance strategy. The technical analysis may be performed by the same or a different person to the person undertaking the cost analysis.

This unit primarily requires the application of skills associated with communication in gathering, analysing and applying costing information and consulting with maintenance personnel. Problem solving, initiative and enterprise, and planning and organising are required to analyse and estimate the cost of maintenance strategies.

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

Pre-requisite Unit

Nil

Competency Field

Competitive systems and practices

Unit Sector

Not applicable

Elements and Performance Criteria

Elements describe the Performance criteria describe the performance needed to

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essential outcomes.		demonstrate achievement of the element.	
1	**Analyse cost components of maintenance**	1.1	Determine cost of failure of plant/equipment.
		1.2	Determine cost of a planned maintenance shutdown activity, including costs of re-start.
		1.3	Determine cost of maintenance for a planned activity.
		1.4	Determine cost of maintenance for an unplanned activity.
		1.5	Determine costs of condition monitoring.
		1.6	Identify cost implications of different maintenance strategies.
2	**Estimate life cycle costs of plant/ equipment**	2.1	Determine initial capital cost.
		2.2	Estimate servicing, maintenance and repair costs.
		2.3	Estimate production (e.g. loss of) and other costs associated with service, maintenance and repair.
		2.4	Determine depreciation and other applicable allowances.
		2.5	Estimate ancillary costs, such as training, commissioning and productivity loss.
		2.6	Estimate technological life and costs of changing to current technology/costs of retaining obsolete equipment.
		2.7	Estimate annualised costs in present value terms.
		2.8	Identify life cycle cost implications for strategy.
3	**Liaise with proactive maintenance strategy developer**	3.1	Identify cost implications for different strategies.
		3.2	Negotiate a strategy which minimises total costs.
		3.3	Monitor the implementation of the strategy to ensure the costs are minimised.
		3.4	Make required adjustments to strategy.

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Foundation Skills

This section describes those required skills (language, literacy and numeracy) 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.

Competitive systems and practices include one or more of:	• lean operations • agile operations • preventative and predictive maintenance approaches • statistical process control systems, including six sigma and three sigma • Just in Time (JIT), kanban and other pull-related operations control systems • supply, value, and demand chain monitoring and analysis • 5S • continuous improvement (kaizen) • breakthrough improvement (kaizen blitz) • cause/effect diagrams • overall equipment effectiveness (OEE) • takt time • process mapping • problem solving • run charts • standard procedures • current reality tree.
Maintenance strategies and techniques include one or more of:	• total productive maintenance (TPM) • reliability centred maintenance (RCM) • root cause analysis (RCA) • mean time between failures (MBTF) • failure mode and effects analysis (FMEA) • condition monitoring

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	• related proactive maintenance strategies.
Cost components of maintenance include all of:	• direct costs, such as labour and materials • indirect costs, such as management overhead • comparison with cost of equipment replacement • re-engineering • breakdown repair • cost of lost production under different maintenance strategies • cost of inefficient equipment/plant operation due to poor maintenance.

Unit Mapping Information

Release 1. Supersedes and is equivalent to MSS405032A Analyse cost implications of maintenance strategy

Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=5b04f318-804f-4dc0-9463-c3fb9a3fe998

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Assessment Requirements for MSS405032 Analyse cost implications of maintenance strategy

Modification History

Release 1. Supersedes and is equivalent to MSS405032A Analyse cost implications of maintenance strategy

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 the ability to analyse cost implications of two (2) or more maintenance strategies and to:

- analyse cost components for each strategy
- estimate life cycle costs for each strategy
- compare the cost implications and negotiate a strategy which minimises costs.

Knowledge Evidence

Must provide evidence that demonstrates sufficient knowledge to interact with relevant personnel and be able to analyse cost implications for maintenance strategies, including knowledge of:

- cost components of maintenance strategies
- direct and indirect costs
- maintenance strategies appropriate to the organisation, their strengths and weaknesses
- techniques for estimating production, sales and other costs related to maintenance strategies
- depreciation, capital vs. expense
- present day value of future costs – determination and use of
- life cycle costing
- negotiation.

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 is best done from a report and/or folio of evidence drawn from:
  - a single project which provides sufficient evidence of the requirements of all the elements and performance criteria
  - multiple smaller projects which together provide sufficient evidence of the requirements of all the elements and performance criteria.

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- A third-party report, or similar, may be needed to testify to the work done by the individual, particularly when the project has been done as part of a project team.
- Assessment should use a real cost analysis of maintenance strategies for an operational workplace.
- Knowledge evidence may be collected concurrently with performance evidence 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.
- Assessors must satisfy the assessor competency requirements that are in place at the time of the assessment as set by the VET regulator.
- The assessor must demonstrate both technical competency and currency.
- Technical competence can be demonstrated through:
  - relevant VET or other qualification/Statement of Attainment AND/OR
  - relevant workplace experience
- Currency can be demonstrated through:
  - performing the competency being assessed as part of current employment OR
  - having consulted with an organisation providing relevant environmental monitoring, management or technology services about performing the competency being assessed within the last twelve months.

Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=5b04f318-804f-4dc0-9463-c3fb9a3fe998

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MSS405041 Implement improvement systems in an organisation

Modification History

Release 1. Supersedes and is equivalent to MSS405041A Implement improvement systems in an organisation

Application

This unit of competency covers the skills and knowledge required to introduce, review/adjust and institutionalise continuous improvement and breakthrough improvement processes in an organisation.

This unit applies to an individual responsible for the introduction of, or ongoing implementation/improvement of improvement systems across an organisation. The systems will include a continuous improvement system sometimes also known as kaizen, and breakthrough improvement sometimes known as kaizen blitz.

The continuous improvement (kaizen) system consists of strategies for continuously monitoring for and implementation of incremental improvements to processes, operations and products. Breakthrough improvement ‘events’ (kaizen blitz) covers the identification of improvement opportunities that are best undertaken in a single exercise.

This unit primarily requires the application of skills associated with teamwork, problem solving, initiative and enterprise, and planning and organising skills in order to identify, implement and institutionalise kaizen activity. Communication skills are required to gather information and consult with team members and other stakeholders. This unit also requires aspects of self-management and learning to ensure feedback and new learning is integrated into continual improvement.

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

Pre-requisite Unit

Nil

Competency Field

Competitive systems and practices

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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	**Prepare for improvement systems implementation/ adjustment**	1.1	Determine scope of improvement systems.
		1.2	Identify key performance indicators (KPIs) for inclusion in improvement systems.
		1.3	Prepare operating instructions and other required documentation for continuous and breakthrough improvement systems.
		1.4	Ensure compliance with health, safety and environment (HSE) and other regulatory requirements are addressed in improvement instructions.
		1.5	Identify and brief implementation team.
		1.6	Prioritise areas operation, or processes requiring early action.
		1.7	Prepare communication strategy for employees and other stakeholders.
		1.8	Make infrastructure and support arrangements for improvement systems.
		1.9	Obtain required approvals for commencement of improvement systems.
2	**Implement/adjust improvement systems**	2.1	Arrange for initial/update training in continuous improvement (kaizen) and related competitive systems and practices for employees.
		2.2	Facilitate the development of operating protocols for continuous improvement at the team level.
		2.3	Establish decision making mechanism for system level continuous improvement.
		2.4	Invite suggestions for breakthrough improvements.

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		2.5	Establish mechanism for prioritising breakthrough improvements.
		2.6	Establish breakthrough teams and implement priority breakthrough events.
		2.7	Clarify points of disagreement/uncertainty over improvement systems implementation through consultation and, where required, by reference to procedures or other relevant authority.
3	**Monitor implementation/ adjustment of improvement systems**	3.1	Consult stakeholders on processes and perceived success of early implementation of continuous and breakthrough improvement events.
		3.2	Analyse processes and operations to quantify variations in KPIs over early period of implementation of improvement systems.
		3.3	Identify and solve ongoing performance issues.
		3.4	Negotiate any differences between problems and proposed solutions.
		3.5	Develop plans and obtain agreements to implement further improvements.
		3.6	Implement improvements.
		3.7	Measure changes and calculate benefits.
		3.8	Complete all relevant documentation.
		3.9	Communicate achievements to stakeholders.
4	**Institutionalise continuous improvement**	4.1	Arrange for regular reviews of improvement systems.
		4.2	Integrate improvement system reports with other reporting processes, including visual management systems.
		4.3	Arrange for regular reporting of improvement system results to customers and other critical stakeholders.

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Foundation Skills

This section describes those required skills (language, literacy and numeracy) 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.

Competitive systems and practices include one or more of:	• lean operations • agile operations • preventative and predictive maintenance approaches • statistical process control systems, including six sigma and three sigma • Just in Time (JIT), kanban and other pull-related operations control systems • supply, value, and demand chain monitoring and analysis • 5S • continuous improvement (kaizen) • breakthrough improvement (kaizen blitz) • cause/effect diagrams • overall equipment effectiveness (OEE) • takt time • process mapping • problem solving • run charts • standard procedures • current reality tree.
Scope of improvement systems includes one or more of:	• target divisions, operations, work processes, products and sites that stakeholders want included in a particular improvement system • levels of targeting for the continuous improvement system, including the system level focusing on the value stream and the overall achievement of customer defined features/benefits • process level focusing on individual processes, teams and team leaders.

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Relevance of KPIs includes one or more of:	• appropriateness (did they lead to/encourage desirable performance?) • currency (are they still encouraging desirable performance?) • unintended consequences (do they lead to outcomes which are not desirable – even if some performance is desirable?) • signal/noise (is the balance between desirable and undesirable outcomes strong and positive?).
Instructions for incremental or breakthrough improvement processes include one or more of:	• methods for employees to suggest incremental or breakthrough improvement • criteria for identifying a breakthrough improvement need • approval processes • monitoring and reporting processes.
Procedures (written, verbal, visual, computer based, etc.) include one or any combination of:	• work instructions • standard operating procedures (SOPs) • safe work method statements • formulas/recipes • batch sheets • temporary instructions • any similar instructions provided for the smooth running of the plant.
Solving performance issues includes one or more of:	• generating improvement ideas (brainstorming/asking experts) • selecting most appropriate improvement ideas to proceed with • conducting experiments where required to test idea • making final selection of improvement ideas • determining most appropriate improvement strategy (i.e. incremental or breakthrough (kaizen blitz) improvement).

Unit Mapping Information

Release 1. Supersedes and is equivalent to MSS405041A Implement improvement systems in an organisation

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Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=5b04f318-804f-4dc0-9463-c3fb9a3fe998

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Assessment Requirements for MSS405041 Implement improvement systems in an organisation

Modification History

Release 1. Supersedes and is equivalent to MSS405041A Implement improvement systems in an organisation

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 the ability, across an organisation or department/section, to:

- interpret operations, processes and products in terms of customer features/benefits and then set appropriate key performance indicators (KPIs)
- prepare appropriate documentation for continuous and breakthrough improvement processes
- establish decision-making processes for considering system level continuous improvement suggestions
- encourage and lead others in implementing/adjusting continuous improvement system
- problem solve implementation issues with continuous improvement system
- lead and motivate others in planning, implementing and sustaining improvements.

Knowledge Evidence

Must provide evidence that demonstrates sufficient knowledge to interact with relevant personnel and be able to implement improvement systems, including knowledge of:

- continuous and breakthrough improvement (kaizen and kaizen blitz) philosophy and process
- competitive systems and practices in own organisation
- types of KPIs and their impacts on performance
- improvement processes, including implementation, monitoring and evaluation strategies.

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 is best done from a report and/or folio of evidence drawn from:
  - a single project which provides sufficient evidence of the requirements of all the elements and performance criteria
  - multiple smaller projects which together provide sufficient evidence of the requirements of all the elements and performance criteria.

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- A third-party report, or similar, may be needed to testify to the work done by the individual, particularly when the project has been done as part of a project team.
- Assessment should use a real project where the introduction of improvement systems occurs across an operational workplace.
- Knowledge evidence may be collected concurrently with performance evidence 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.
- Assessors must satisfy the assessor competency requirements that are in place at the time of the assessment as set by the VET regulator.
- The assessor must demonstrate both technical competency and currency.
- Technical competence can be demonstrated through:
  - relevant VET or other qualification/Statement of Attainment AND/OR
  - relevant workplace experience
- Currency can be demonstrated through:
  - performing the competency being assessed as part of current employment OR
  - having consulted with an organisation providing relevant environmental monitoring, management or technology services about performing the competency being assessed within the last twelve months.
  -

Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=5b04f318-804f-4dc0-9463-c3fb9a3fe998

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MSS405050 Determine and improve process capability

Modification History

Release 1. Supersedes and is equivalent to MSS405050A Determine and improve process capability

Application

This unit of competency covers the skills and knowledge required to determine the actual (as distinct from design) capability of a process and then to analyse that process to remove assignable causes and reduce random causes. This unit applies to an individual (who may be a production manager, plant/process engineer, technical specialist or similar) who is responsible for developing plans to stabilise and then improve process capability and following agreement the implementation of the plans to improve process capability. The organisation may use either a six sigma or three sigma process.

This unit primarily requires the application of skills associated with communication in gathering and analysing data and consulting with relevant personnel. Teamwork, problem solving, initiative and enterprise, and planning and organising are required to determine causes to variations and implement solutions. This is done in an environment using computer technology and also requires aspects of self-management and learning to ensure feedback and new learning is integrated into process improvements and operations management control systems.

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

Pre-requisite Unit

MSS404052 Apply statistics to operational processes

Competency Field

Competitive systems and practices

Unit Sector

Not applicable

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Elements and Performance Criteria

Elements describe the essential outcomes.		Performance criteria describe the performance needed to demonstrate achievement of the element.	
1	**Obtain data for process capability study**	1.1	Identify the process requiring capability analysis, including relevant procedures.
		1.2	Identify customer specifications for product or service.
		1.3	Obtain process capability data.
2	**Analyse data**	2.1	Identify assignable causes of variation in liaison with relevant personnel.
		2.2	Develop solutions to eliminate variation due to assignable causes in liaison with relevant personnel.
		2.3	Analyse random variations for possible causes in liaison with relevant personnel.
		2.4	Confirm causes of random variation.
		2.5	Develop solutions to reduce random variations in liaison with relevant personnel.
3	**Take action to improve process capability**	3.1	Develop plans to implement solutions.
		3.2	Liaise with relevant personnel to implement solutions.
		3.3	Gain necessary approvals, as required.
		3.4	Monitor implementation and make adjustments, as required.
		3.5	Determine new/revised process capability.
		3.6	Implement revised process capability regime.

Foundation Skills

This section describes those required skills (language, literacy and numeracy) that are essential to performance.

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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.

Competitive systems and practices include one or more ofL	• lean operations • agile operations • preventative and predictive maintenance approaches • statistical process control systems, including six sigma and three sigma • Just in Time (JIT), kanban and other pull-related operations control systems • supply, value, and demand chain monitoring and analysis • 5S • continuous improvement (kaizen) • breakthrough improvement (kaizen blitz) • cause/effect diagrams • overall equipment effectiveness (OEE) • takt time • process mapping • problem solving • run charts • standard procedures • current reality tree.
Process capability data includes one or more of:	• customer requirements for product or service • process stability (control chart) performance • other charts and data.
Procedures (written, verbal, visual, computer based, etc.) include one or any combination of:	• work instructions • standard operating procedures (SOPs) • safe work method statements • formulas/recipes

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- 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 MSS405050A Determine and improve process capability

Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=5b04f318-804f-4dc0-9463-c3fb9a3fe998

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Assessment Requirements for MSS405050 Determine and improve process capability

Modification History

Release 1. Supersedes and is equivalent to MSS405050A Determine and improve process capability

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 the ability to determine and improve the capability of one (1) or more processes and to:

- obtain relevant data
- analyse the data to determine random and non-random variation
- develop solutions to reduce variation
- develop and monitor the implementation of plans aimed at reducing variation
- make further improvements as appropriate and determine capability of improved process.

Knowledge Evidence

Must provide evidence that demonstrates sufficient knowledge to interact with relevant personnel and be able to determine and improve capability, including knowledge of:

- statistical methods of processing and describing data
- data collection methods
- data processing techniques required to establish variability and normal distribution
- calculate three sigma or six sigma process capability, as relevant
- random and non-random results and processes for recognition of assignable causes
- causes of different types of non-random results
- causes of random variation
- process understanding sufficient to translate the data into variations in the process and determine methods of controlling them.

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 is best done from a report and/or folio of evidence drawn from:
  - a single project which provides sufficient evidence of the requirements of all the elements and performance criteria
  - multiple smaller projects which together provide sufficient evidence of the requirements of all the elements and performance criteria.

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- A third-party report, or similar, may be needed to testify to the work done by the individual, particularly when the project has been done as part of a project team.
- Assessment should use a real capability analysis and improvement project for an operational workplace.
- Knowledge evidence may be collected concurrently with performance evidence 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.
- Assessors must satisfy the assessor competency requirements that are in place at the time of the assessment as set by the VET regulator.
- The assessor must demonstrate both technical competency and currency.
- Technical competence can be demonstrated through:
  - relevant VET or other qualification/Statement of Attainment AND/OR
  - relevant workplace experience
- Currency can be demonstrated through:
  - performing the competency being assessed as part of current employment OR
  - having consulted with an organisation providing relevant environmental monitoring, management or technology services about performing the competency being assessed within the last twelve months.

Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=5b04f318-804f-4dc0-9463-c3fb9a3fe998

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MSS405053 Manage application of six sigma for process control and improvement

Modification History

Release 1. Supersedes and is equivalent to MSS405053A Manage application of six sigma for process control and improvement

Application

This unit of competency covers the skills and knowledge required to manage six sigma (or similar statistics based approach) in the workplace for the purposes of process control and process improvement.

This unit covers the skills and knowledge needed by a technical expert in managing the application of six sigma in an organisation in order to minimise defects and make improvements to processes and/or products. Depending on the need the expert will apply six sigma processes themselves or work with, and advise, other employees in applying six sigma processes.

This unit requires the application of skills associated with problem solving, initiative, enterprise, planning and organising in order to apply six sigma in the workplace. This unit requires skill in gathering, analysing and applying information and data.

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

Pre-requisite Unit

MSS404052 Apply statistics to operational processes

Competency Field

Competitive systems and practices

Unit Sector

Not applicable

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Elements and Performance Criteria

Elements describe the essential outcomes.		Performance criteria describe the performance needed to demonstrate achievement of the element.	
1	**Review process data**	1.1	Confirm area of responsibility/study with executive leaders and other stakeholders.
		1.2	Review statistical process control (SPC), process capability and other relevant data for area of responsibility/study.
		1.3	Identify shifts in process performance and processes requiring improvement.
		1.4	Quantify the shifts in performance which have occurred or which are desired.
		1.5	Determine cost of shift in performance and cost of intervention.
		1.6	Identify improvement priorities and degree of intervention.
2	**Apply define, measure, analyse, improve, and control and standardise (DMAIC) process to priority areas**	2.1	Define improvement project.
		2.2	Determine if a six sigma project team is to be established or project undertaken individually.
		2.3	Determine metrics and acquire initial data.
		2.4	Analyse data and determine possible causes of performance shifts/process improvements.
		2.5	Develop and trial improvement solutions.
		2.6	Control and standardise the improvement.
3	**Establish/review control strategies**	3.1	Determine sampling schedule.
		3.2	Analyse data to determine process capability.
		3.3	Develop process control strategy.
		3.4	Confirm strategy with all stakeholders.

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		3.5	Identify skills required to implement and monitor process control strategy.
		3.6	Arrange training, where required, for employees in skills and techniques needed for process control strategy.
4	**Review and confirm improvement**	4.1	Calculate and document benefits.
		4.2	Ensure procedures and other relevant documentation is updated for improved procedure.
		4.3	Review process data after an appropriate period and confirm the improvement.

Foundation Skills

This section describes those required skills (language, literacy and numeracy) 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.

Competitive systems and practices include one or more of:	• lean operations • agile operations • preventative and predictive maintenance approaches • statistical process control systems, including six sigma and three sigma • Just in Time (JIT), kanban and other pull-related operations control systems • supply, value, and demand chain monitoring and analysis • 5S • continuous improvement (kaizen) • breakthrough improvement (kaizen blitz) • cause/effect diagrams

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- overall equipment effectiveness (OEE)
- takt time
- process mapping
- problem solving
- run charts
- standard procedures
- current reality tree.

DMAIC includes all of:

- define
- measure
- analyse
- improve
- control and standardise.

Definition of the project includes all of:

- completed, verified and validated as in process map
- suppliers, inputs, process, outputs, customers (SIPOC) diagram
- discrepancies to current 'as is' process map
- formation and briefing of project team
- defining business case for project
- problem statement
- goal statement
- project scope.

Metrics includes one or more of:

- key measures/attributes
- sampling schedule for project
- defect rate
- other metrics required by the business.

Analyse includes one or more of:

- statistical analysis of data
- root cause analysis (RCA)
- failure mode and effects analysis (FMEA)
- use of various other problem solving/analysis tools.

Improve includes one or more of:

- generating and testing of improvements
- selecting appropriate improvements.

Control and standardise includes

- documenting (in organisation approved format) outcomes and procedures for standardisation

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all of:	• transferring ownership of improved process.
Sampling schedule includes one or more of:	• sampling frequency • type of sample/sample method • sample location/type • type of test/data to be collected.
Process control strategy includes one or more of:	• degree of intervention/rules for resets • SPC tools to be used.

Unit Mapping Information

Release 1. Supersedes and is equivalent to MSS405053A Manage application of six sigma for process control and improvement

Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=5b04f318-804f-4dc0-9463-c3fb9a3fe998

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Assessment Requirements for MSS405053 Manage application of six sigma for process control and improvement

Modification History

Release 1. Supersedes and is equivalent to MSS405053A Manage application of six sigma for process control and 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 include the ability to manage six sigma for process control and improvement in the workplace for one (1) or more processes to:

- review process data to identify improvement priorities and degree of intervention
- apply DMAIC to make and then standardise improvements
- collect and analyse data to confirm improvement
- determine and review improvements obtained.

Knowledge Evidence

Must provide evidence that demonstrates sufficient knowledge to interact with relevant personnel and be able to manage the application of six sigma (or similar), including knowledge of:

- identification and definition of six sigma (or similar) projects
- sampling, data collection, and analysis
- determining quantifiable benefits
- DMAIC methodology and application
- charting, including Pareto charts, fishbone diagrams, PICK charts, run charts and scatter diagrams
- 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/confidence levels
- failure mode and effects analysis (FMEA)
- process mapping
- suppliers, inputs, process, outputs, customers (SIPOC) mapping
- types of data (e.g. discrete/continuous/attributes) and their use in six sigma.

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:

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  - should occur over a range of situations which include typical disruptions to normal, smooth operation of the workplace
  - will typically include a third-party (e.g. supervisor, 360 degree) report focussing on consistent performance and problem recognition and solving. A 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 either a six sigma project(s) or evidence of day-to-day managing of the application of six sigma in own workplace.
- Assessment should occur in operational workplace situations.
- 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.
- Assessors must satisfy the assessor competency requirements that are in place at the time of the assessment as set by the VET regulator.
- The assessor must demonstrate both technical competency and currency.
- Technical competence can be demonstrated through:
  - relevant VET or other qualification/Statement of Attainment AND/OR
  - relevant workplace experience
- Currency can be demonstrated through:
  - performing the competency being assessed as part of current employment OR
  - having consulted with an organisation providing relevant environmental monitoring, management or technology services about performing the competency being assessed within the last twelve months.

Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=5b04f318-804f-4dc0-9463-c3fb9a3fe998

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MSS405060 Develop the application of enterprise control systems in an organisation

Modification History

Release 1. Supersedes and is equivalent to MSS405060A Develop the application of enterprise control systems in an organisation

Application

This unit of competency covers the skills and knowledge required to continuously modify and improve or develop new enterprise-wide information technology (IT) based control systems, such as Supervisory Control and Data Acquisition (SCADA), Enterprise Resource Planning (ERP), Materials Resource Planning (MRPII) and similar. Typically the development of such a system will be in liaison with an appropriate technical expert who may be an internal expert or an external consultant.

This unit applies to an individual responsible for the development and implementation of new systems or modifications/changes to the current system. While the individual might generate the ideas for change themselves and also undertake a significant part of the final implementation, they may also be working closely with an appropriate technical expert (such as the software system supplier) who may actually make the modifications.

This unit primarily requires the application of skills associated with communication in gathering, analysing and applying information and consulting with stakeholders. Teamwork, problem solving, initiative and enterprise, and planning and organising skills are required to determine and implement effective enterprise systems and modifications. This unit also requires computer skills and aspects of self-management and learning to ensure feedback and new learning is integrated into system planning.

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

Pre-requisite Unit

Nil

Competency Field

Competitive systems and practices

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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	**Monitor information and control needs of organisation**	1.1	Check the use of current information.
		1.2	Check the operation of current control systems.
		1.3	Communicate regularly with key information users regarding any new or changed information control needs, including information needs from and to value stream.
		1.4	Identify short comings in information and control provision.
		1.5	Take action on information and control needs to meet organisational needs.
2	**Check the current system against organisation needs**	2.1	Check the routine use of the system.
		2.2	Check any system alarm or non-conformance notification and control operation.
		2.3	Communicate regularly with key stakeholders about current system use and application.
		2.4	Determine effect of non-conformance on enterprise system.
		2.5	Identify problems/issues.
		2.6	Take action on problems and issues.
3	**Determine developments needed in a new or significantly modified system**	3.1	Identify needs requiring a new system or development of modifications to the current system.
		3.2	Draft scope, specifications and outcomes required.
		3.3	Liaise with key stakeholders and relevant technical experts to refine scope, specifications and outcomes

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			needed in new or modified system.
		3.4	Agree final scope, specifications and outcomes.
4	**Develop system**	4.1	Develop project plan.
		4.2	Ensure ongoing consultation with all relevant stakeholders.
		4.3	Manage development project.
		4.4	Manage trialling of modified system.
		4.5	Ensure modified system meets organisational requirements.

Foundation Skills

This section describes those required skills (language, literacy and numeracy) 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.

Competitive systems and practices include one or more of:	• lean operations • agile operations • preventative and predictive maintenance approaches • statistical process control systems, including six sigma and three sigma • Just in Time (JIT), kanban and other pull-related operations control systems • supply, value, and demand chain monitoring and analysis • 5S • continuous improvement (kaizen) • breakthrough improvement (kaizen blitz)

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- cause/effect diagrams
- overall equipment effectiveness (OEE)
- takt time
- process mapping
- problem solving
- run charts
- standard procedures
- current reality tree.

SCADA refers to:

- a number of systems which automatically collect critical process data, perform required mathematical manipulations on it and then make control decisions and/or give required information personnel for action

In the continuous operations sector, the SCADA system is sometimes integrated into other sophisticated computer control systems, such as distributed control system (DCS) and indeed these systems do merge in advanced systems. These organisations may simply refer to their SCADA as the DCS or other similar term (such as the proprietary name of the computer system).

Stages where value stream actions may occur include one or more of:

- sales outlet/representative
- information gathering, data analysis and research
- product design
- raw material sourcing
- intermediate processing
- final assembler/collation/preparation
- support services (e.g. accounting, finance and legal)
- storage and delivery to customer
- after market support.

Items in the value stream include one or more of:

- physical elements of the production system, such as sites, workstations, equipment and material, including stock, work in progress and finished products
- information needed to meet customer requirements, such as designs, drawings, work instructions, standard operating procedures (SOPs), standards, material lists and pricing
- information not directly related to current customer requirements but required by the organisation.

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Unit Mapping Information

Release 1. Supersedes and is equivalent to MSS405060A Develop the application of enterprise control systems in an organisation

Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=5b04f318-804f-4dc0-9463-c3fb9a3fe998

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Assessment Requirements for MSS405060 Develop the application of enterprise control systems in an organisation

Modification History

Release 1. Supersedes and is equivalent to MSS405060A Develop the application of enterprise control systems in an organisation

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 the ability, across an organisation or department/section, to:

- analyse organisation needs and match to enterprise control system features
- determine critical features required in enterprise control system
- modify system/have system modified as a result of trials or changing needs.

Knowledge Evidence

Must provide evidence that demonstrates sufficient knowledge to interact with relevant personnel and be able to develop and implement new enterprise control systems, including knowledge of:

- capability of resource planning/SCADA systems, as appropriate
- information and control needs of organisation/process
- project management
- support/training/skill development mechanisms available for access by personnel.

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 is best done from a report and/or folio of evidence drawn from:
  - a single project which provides sufficient evidence of the requirements of all the elements and performance criteria
  - multiple smaller projects which together provide sufficient evidence of the requirements of all the elements and performance criteria.
- A third-party report, or similar, may be needed to testify to the work done by the individual, particularly when the project has been done as part of a project team.
- Assessment should use a real project where the development and implementation of new enterprise control systems or modifications/ changes to the current enterprise control system occur in an operational workplace.

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- Knowledge evidence may be collected concurrently with performance evidence 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.
- Assessors must satisfy the assessor competency requirements that are in place at the time of the assessment as set by the VET regulator.
- The assessor must demonstrate both technical competency and currency.
- Technical competence can be demonstrated through:
  - relevant VET or other qualification/Statement of Attainment AND/OR
  - relevant workplace experience
- Currency can be demonstrated through:
  - performing the competency being assessed as part of current employment OR
  - having consulted with an organisation providing relevant environmental monitoring, management or technology services about performing the competency being assessed within the last twelve months.

Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=5b04f318-804f-4dc0-9463-c3fb9a3fe998

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MSS405061 Determine and establish information collection requirements and processes

Modification History

Release 1. Supersedes and is equivalent to MSS405061A Determine and establish information collection requirements and processes

Application

This unit of competency covers the skills and knowledge required to determine what information is needed to support decision making in a competitive systems and practices environment and then to set about establishing required information collection systems. This would usually be done as part of a team and would require consultation with all key stakeholders.

This unit covers the determination of data needs and collection methods for an organisation or specific plant or process. This will typically be done in liaison with a wide range of people, each of whom will have their own specific information requirements. This will need to be balanced and interpreted into a workable set of data to be collected.

This unit is primarily focused on those decisions which are non-routine and so need specific collection of data, or for those decisions which are routine, the establishment of a routine data collection protocol to allow for the decisions to be made based on appropriate, reliable data.

This unit primarily requires the application of communication and problem solving skills associated with determining information requirements and processes of information collection. Initiative and enterprise, and planning and organising are also required to ensure information targets specific factors. This unit also requires aspects of self-management and learning to ensure feedback and new learning is integrated into the development of processes.

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

Pre-requisite Unit

Nil

Competency Field

Competitive systems and practices

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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	**Analyse decisions to be made**	1.1	Identify personnel to be included in the analysis process.
		1.2	Determine the consequences of the decisions in liaison with relevant personnel.
		1.3	Determine the variables which can be controlled.
		1.4	Determine the variables which cannot be controlled.
		1.5	Determine the consequences of a change in these variables in liaison with affected personnel.
2	**Define factors which cause variables to change**	2.1	Identify factors which are able to be controlled.
		2.2	Identify factors which are not able to be controlled.
		2.3	Identify means of measuring these factors, or indicators for the values of these factors.
		2.4	Compile a list of measurements/indicators required.
		2.5	Communicate with team members and involve them in development of factors and changes to ensure awareness and facilitate learning.
3	**Develop data collection protocols**	3.1	Determine methods of making measurements.
		3.2	Determine methods of quantifying indicators.
		3.3	Determine the benefit/cost of automated (or other) collection of data.
4	**Develop systems**	4.1	Identify user of information and their needs and abilities.

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to produce required information	4.2	Determine data processing needs to produce required information.
	4.3	Determine information distribution channels.
	4.4	Determine skill development need for recipients of information.
	4.5	Implement systems to produce information.
	4.6	Monitor implementation and make adjustments, as required.

Foundation Skills

This section describes those required skills (language, literacy and numeracy) 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.

Competitive systems and practices include one or more of:

- lean operations
- agile operations
- preventative and predictive maintenance approaches
- statistical process control systems, including six sigma and three sigma
- Just in Time (JIT), kanban and other pull-related operations control systems
- supply, value, and demand chain monitoring and analysis
- 5S
- continuous improvement (kaizen)
- breakthrough improvement (kaizen blitz)
- cause/effect diagrams
- overall equipment effectiveness (OEE)
- takt time
- process mapping

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- problem solving
- run charts
- standard procedures
- current reality tree.

Variability includes one or more of:

- any change which occurs in the job
- different times taken to do the same thing
- different effort taken to do the same thing
- different results from applying the same effort (i.e. variation in quality)
- amount of rework required.

Unit Mapping Information

Release 1. Supersedes and is equivalent to MSS405061A Determine and establish information collection requirements and processes

Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=5b04f318-804f-4dc0-9463-c3fb9a3fe998

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Assessment Requirements for MSS405061 Determine and establish information collection requirements and processes

Modification History

Release 1. Supersedes and is equivalent to MSS405061A Determine and establish information collection requirements and processes

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 the ability, for one (1) or more specific plants or processes, to:

- determine relevant data, including variables for decisions
- determine factors and variables subject to control
- develop strategies for data collection that deliver the greatest overall benefit
- implement data collection systems.

Knowledge Evidence

Must provide evidence that demonstrates sufficient knowledge to interact with relevant personnel and be able to determine what information is needed to support decision making, including knowledge of:

- business needs of the organisation/section
- information needs of individuals within the organisation
- possible data available/potentially available to the organisation
- methods of collecting available data
- relationship between data available and information required
- methods of converting data into useful information
- methods of developing indicators for factors resistant to measurement.

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 is best done from a report and/or folio of evidence drawn from:
  - a single project which provides sufficient evidence of the requirements of all the elements and performance criteria
  - multiple smaller projects which together provide sufficient evidence of the requirements of all the elements and performance criteria.
- A third-party report, or similar, may be needed to testify to the work done by the individual, particularly when the project has been done as part of a project team.

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- Assessment should use a real project where the determination of data needs and collection methods for an organisation or specific plant or process occurs in an operational workplace.
- Knowledge evidence may be collected concurrently with performance evidence 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.
- Assessors must satisfy the assessor competency requirements that are in place at the time of the assessment as set by the VET regulator.
- The assessor must demonstrate both technical competency and currency.
- Technical competence can be demonstrated through:
  - relevant VET or other qualification/Statement of Attainment AND/OR
  - relevant workplace experience
- Currency can be demonstrated through:
  - performing the competency being assessed as part of current employment OR
  - having consulted with an organisation providing relevant environmental monitoring, management or technology services about performing the competency being assessed within the last twelve months.

Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=5b04f318-804f-4dc0-9463-c3fb9a3fe998

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MSS405075 Facilitate the development of a new product

Modification History

Release 1. Supersedes and is equivalent to MSS405075A Facilitate the development of a new product

Application

This unit of competency covers the skills and knowledge required to facilitate the development of a new or evolutionary product within an existing range of products and encompasses design for manufacture, determining the process capability and the facilitation of its initial production.

This unit applies to an individual responsible for the development of a new product. The unit assumes an initial product design has been prepared by a designer and also assumes a working knowledge of all main processes and materials so that an informed choice can be made between them. The person will normally be a manager or technical expert and be required to work closely with a range of other management and operations personnel.

The unit requires balancing the business and technical sides of the new product and would typically be done as part of a cross-functional team. This unit primarily requires the application of skills associated with communication in gathering, analysing and applying information and consulting with stakeholders. Teamwork, problem solving, initiative and enterprise, and planning and organising are required to facilitate the development of a new product. This unit also requires aspects of self-management and learning to ensure feedback and new learning is integrated into competitive systems and practices.

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

Pre-requisite Unit

MSS404052	Apply statistics to operational processes

Competency Field

Competitive systems and practices

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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	**Confirm design brief of new product in consultation with relevant people**	1.1	Review product design with customer and other key stakeholders and agree on technical specification, aesthetic requirements, timelines, cost and other market requirements.
		1.2	Determine any regulatory, industry code/intellectual property (IP) requirements for product.
		1.3	Identify any required tooling, process or equipment needs.
		1.4	Confirm design brief, including relevant drawings, to meet needs.
		1.5	Determine design brief conforms to organisation objectives and capability.
		1.6	Obtain approval on total design brief from all relevant personnel.
2	**Determine material requirements for product**	2.1	Select appropriate materials or combination of materials/ components in liaison with key stakeholders.
		2.2	Determine material/component testing and evaluation regime required to meet product end use requirements, including regulatory/industry code requirements.
		2.3	Arrange for testing and evaluation of trial materials/ components.
		2.4	Guide material trial process and interpret material trial results.
		2.5	Determine final materials/components specifications and details of value chain.

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3	**Determine process requirements for product**	3.1	Select appropriate process to make product in liaison with key stakeholders and based on relevant factors.
		3.2	Determine any special process/equipment requirements for this product.
		3.3	Communicate with production personnel to determine any concerns and/or training or other needs.
		3.4	Adjust the design, as required, to satisfy customer and production needs.
4	**Ensure process needs for new product have been met**	4.1	Liaise with equipment design/procurement personnel.
		4.2	Interpret hardware specifications and ensure they are appropriate for the job required.
		4.3	Liaise with process personnel to ensure appropriate draft procedures for new product have been developed.
		4.4	Validate product cost and design meets organisation requirements and capability.
5	**Trial new product through the process**	5.1	Design trialling procedure to deliver required information.
		5.2	Liaise with relevant stakeholders.
		5.3	Ensure health, safety and environment (HSE) requirements are observed.
		5.4	Coordinate the trialling of the new product.
		5.5	Interpret product trial results and guide product trial process.
		5.6	Tune process to optimise production of new product.
6	**Determine process capability**	6.1	Plot appropriate statistical process control charts.
		6.2	Determine confidence limits.
		6.3	Compare confidence limits with product specification.

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7	**Coordinate product trials**	7.1	Determine product testing and evaluation regime required to meet end use requirements, including regulatory/industry code requirements.
		7.2	Arrange for testing and evaluation of trial product/prototype.
		7.3	Interpret product trial results and guide product trial process.
		7.4	Determine final product specification in liaison with key stakeholders.
		7.5	Make required changes to materials, process and equipment.
8	**Implement standard procedures for new product**	8.1	Monitor initial production and, in liaison with appropriate team members, adjust process, conditions and materials to ensure the product and process outcomes conform to customer, regulatory and organisation requirements.
		8.2	Ensure process specifications are updated and reflect the optimised operation developed.
		8.3	Ensure standard operating procedures (SOPs) are correct for the new product.
		8.4	Ensure equipment and other hardware records are updated to reflect additions/changes.
		8.5	Ensure project records are complete and all required reports have been completed and submitted.
		8.6	Archive records according to company procedure.

Foundation Skills

This section describes those required skills (language, literacy and numeracy) that are essential to performance.

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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.

Competitive systems and practices include one or more of:	• lean operations • agile operations • preventative and predictive maintenance approaches • statistical process control systems, including six sigma and three sigma • Just in Time (JIT), kanban and other pull-related operations control systems • supply, value, and demand chain monitoring and analysis • 5S • continuous improvement (kaizen) • breakthrough improvement (kaizen blitz) • cause/effect diagrams • overall equipment effectiveness (OEE) • takt time • process mapping • problem solving • run charts • standard procedures • current reality tree.
Organisation objectives and requirements include one or more of:	• cost/profit requirements for new products (e.g. minimum return and capital expenditure limits) • encouragement/discouragement of different types of products (e.g. on sustainability, ethical or other non-individual customer-related criteria) • potential or actual capacity conflicts with other customers or product/process activities • activities that require/may require community consultation (e.g. on noise or other environmental grounds).
Typical regulatory requirements include one or more	• work health and safety (WHS) • environmental regulations • structural codes

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of:	• product/industry-specific requirements.
Typical problems include one or more of:	• defining product end-use requirements in terms meaningful to the product design and manufacture • matching suitable materials and processes to the product needs and company expertise and facilities • matching (and improving) process capability to product tolerances.
Relevant factors include one or more of	• type of material • dimensional precision of product • length of run/number of products • required aesthetics • size and complexity of product • available capital funding • process equipment available • HSE factors.

Unit Mapping Information

Release 1. Supersedes and is equivalent to MSS405075A Facilitate the development of a new product

Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=5b04f318-804f-4dc0-9463-c3fb9a3fe998

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Assessment Requirements for MSS405075 Facilitate the development of a new product

Modification History

Release 1. Supersedes and is equivalent to MSS405075A Facilitate the development of a new 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 include the ability to facilitate the development of one (1) or more new/modified products and to:

- confirm the design brief
- determine material and process requirements
- ensure process needs have been met
- trial the new product and determine process capability
- conduct product trials
- standardise the new product.

Knowledge Evidence

Must provide evidence that demonstrates sufficient knowledge to interact with relevant personnel and be able to facilitate the development of a new product, including knowledge of:

- appropriate types of materials/components and criteria for choosing between them
- alternative processes/plant/equipment for making the new product and criteria for choosing between them
- determination of process capability
- appropriate sampling and testing for materials/components and products
- determination of processing time, product cost, benefit cost of the new product
- interpretation of trial/field test results.

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 is best done from a report and/or folio of evidence drawn from:
  - a single project which provides sufficient evidence of the requirements of all the elements and performance criteria
  - multiple smaller projects which together provide sufficient evidence of the requirements of all the elements and performance criteria.

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- A third-party report, or similar, may be needed to testify to the work done by the individual, particularly when the project has been done as part of a project team.
- Assessment should use a real new/modified product development project in an operational workplace.
- Knowledge evidence may be collected concurrently with performance evidence 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.
- Assessors must satisfy the assessor competency requirements that are in place at the time of the assessment as set by the VET regulator.
- The assessor must demonstrate both technical competency and currency.
- Technical competence can be demonstrated through:
  - relevant VET or other qualification/Statement of Attainment AND/OR
  - relevant workplace experience
- Currency can be demonstrated through:
  - performing the competency being assessed as part of current employment OR
  - having consulted with an organisation providing relevant environmental monitoring, management or technology services about performing the competency being assessed within the last twelve months.

Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=5b04f318-804f-4dc0-9463-c3fb9a3fe998

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MSS405081 Develop a proactive maintenance strategy

Modification History

Release 1. Supersedes and is equivalent to MSS405081A Develop a proactive maintenance strategy

Application

This unit of competency covers the skills and knowledge required to develop and implement a proactive maintenance strategy for an organisation. The unit recognises that there are a number of predictive or proactive maintenance strategies, such as total productive maintenance (TPM) and reliability centred maintenance (RCM).

This unit applies to an individual responsible for developing a proactive maintenance strategy for an organisation. Typically the organisation will also be implementing other competitive systems and practices. The unit applies to the selection of appropriate strategies, initial development and implementation as well as application of the strategies to new areas and the improvement of operation in existing areas. This would typically be done in a team environment and in consultation with all key stakeholders.

This unit primarily requires the application of skills associated with communication in gathering, analysing and applying information and consulting with stakeholders. Teamwork, problem solving, initiative and enterprise, and planning and organising are required to develop and implement a predictive maintenance strategy. Strategies will incorporate the maintenance requirements of relevant technologies. This unit also requires aspects of self-management and learning to ensure feedback and new learning is integrated into maintenance strategies.

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

Pre-requisite Unit

Nil

Competency Field

Competitive systems and practices

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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	**Determine appropriate analytical techniques**	1.1	Liaise with key stakeholders to determine objectives of maintenance strategy.
		1.2	Examine current maintenance situation to determine major areas requiring improvement.
		1.3	Compare possible strategies, techniques and tools against organisation needs.
		1.4	Select possible strategies, techniques and tools.
		1.5	Confirm selected strategies, techniques and tools with key stakeholders.
2	**Develop reliability strategies**	2.1	Select preferred maintenance strategy.
		2.2	Examine and adapt strategy to organisation needs and priorities.
		2.3	Examine and adapt techniques and tools required to implement strategy.
		2.4	Liaise with key stakeholders to develop an implementation plan.
		2.5	Identify key information and performance indicators required.
3	**Implement strategy**	3.1	Identify data collection required.
		3.2	Identify hardware and other resources required.
		3.3	Identify skill needs required in consultation with key stakeholders.
		3.4	Ensure all resources/training are available.

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		3.5	Implement strategy.
4	**Monitor implementation of strategy**	4.1	Compare information/performance indicators with desired levels.
		4.2	Liaise with key stakeholders regarding strategy issues.
		4.3	Identify areas requiring adjustment.
		4.4	Make required adjustments.

Foundation Skills

This section describes those required skills (language, literacy and numeracy) 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.

Competitive systems and practices include one or more of:	• lean operations • agile operations • preventative and predictive maintenance approaches • statistical process control systems, including six sigma and three sigma • Just in Time (JIT), kanban and other pull-related operations control systems • supply, value, and demand chain monitoring and analysis • 5S • continuous improvement (kaizen) • breakthrough improvement (kaizen blitz) • cause/effect diagrams • overall equipment effectiveness (OEE) • takt time • process mapping

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- problem solving
- run charts
- standard procedures
- current reality tree.

OEE includes:

The combination of the main factors causing loss of productive capacity from equipment/plant and is:

- OEE = availability x performance x quality rate

where:

- availability takes into account losses due to breakdown, set-up and adjustments
- performance takes into account losses due to minor stoppages, reduced speed and idling
- quality rate takes into account losses due to rejects, reworks and start-up waste.

Mean time between failure (MTBF) includes:

One key measure of the effectiveness of a maintenance procedure, and is an indicator as to whether root causes are being found and resolved. If MTBF is reducing, then it is an indicator that the maintenance regime is failing.

There are many possible causes of any problem. Eliminating some will have no impact, others will ameliorate the problem. However, elimination of the root cause will eliminate the problem. There should only be one root cause for any problem and so the analysis should continue until this one cause is found. Elimination of the root cause permanently eliminates the problem.

Depending on the equipment, operations and procedures of the organisation, alternative statistical records of maintenance and maintenance-related events may be substituted for MTBF providing they relate strategies for improving OEE.

Failure mode effects analysis (FMEA) includes:

A systematic approach that identifies potential failure modes in a system, product, or operations/assembly operation caused by either design or operations/assembly process deficiencies. It also identifies critical or significant design or process characteristics that require special controls to prevent or detect failure modes. FMEA is a tool used to prevent problems from occurring.

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Some industry sectors have highly adapted forms of FMEA and may practice traditional FMEA in say their routine maintenance while using another technique, such as Hazard and Operability Studies (HAZOP) for design and modification.

HAZOP is a form of FMEA which has been practiced by the process industries for over 30 years and examines the implications of changes in process conditions to process stability.

Condition monitoring includes: The process of analysing the implications of condition monitoring data for proactive maintenance whether it be obtained from non-destructive testing (NDT) reports, visual assessment by experts, diagnostic reports obtained from SCADA or other enterprise or equipment software and product or process quality analyses. It does not require the actual undertaking of the NDT or condition monitoring assessment or test. If this is required appropriate units from other Training Packages will be required.

Unit Mapping Information

Release 1. Supersedes and is equivalent to MSS405081A Develop a proactive maintenance strategy

Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=5b04f318-804f-4dc0-9463-c3fb9a3fe998

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Assessment Requirements for MSS405081 Develop a proactive maintenance strategy

Modification History

Release 1. Supersedes and is equivalent to MSS405081A Develop a proactive maintenance strategy

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 the ability, for one (1) or more work areas or product families, to:

- consider a variety of proactive maintenance strategies for suitability to an organisation
- consult operators, maintenance, management and other stakeholders in decisions on proactive maintenance strategies
- implement selected strategies
- monitor performance to selected indicators and make improvements to selected proactive maintenance strategies.

Knowledge Evidence

Must provide evidence that demonstrates sufficient knowledge to interact with relevant personnel and be able to develop and implement a proactive maintenance strategy, including knowledge of:

- characteristics and strengths of different types of strategies, techniques and tools
- holistic costs of different strategies combining cost of maintenance with costs of lost production, sales, and so on, as relevant to the organisation
- business goals sufficient to match the strategy to the business needs
- strategic thinking and its application to proactive maintenance
- principles of process equipment and how to improve its reliability
- resources required and how to obtain them.

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 is best done from a report and/or folio of evidence drawn from:
  - a single project which provides sufficient evidence of the requirements of all the elements and performance criteria
  - multiple smaller projects which together provide sufficient evidence of the requirements of all the elements and performance criteria.

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- A third-party report, or similar, may be needed to testify to the work done by the individual, particularly when the project has been done as part of a project team.
- Assessment should use a real project where development of a proactive maintenance strategy occurs in an operational workplace.
- Knowledge evidence may be collected concurrently with performance evidence 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.
- Assessors must satisfy the assessor competency requirements that are in place at the time of the assessment as set by the VET regulator.
- The assessor must demonstrate both technical competency and currency.
- Technical competence can be demonstrated through:
  - relevant VET or other qualification/Statement of Attainment AND/OR
  - relevant workplace experience
- Currency can be demonstrated through:
  - performing the competency being assessed as part of current employment OR
  - having consulted with an organisation providing relevant environmental monitoring, management or technology services about performing the competency being assessed within the last twelve months.

Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=5b04f318-804f-4dc0-9463-c3fb9a3fe998

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MSS405082 Adapt a proactive maintenance strategy to the process operations sector

Modification History

Not applicable.

Application

This unit of competency covers the skills and knowledge required to develop and apply a proactive maintenance strategy for continuous manufacturing processes which may also be major hazard facilities or similar.

This unit applies to an individual in a continuous manufacturing sector, such as chemical, hydrocarbons and refining, smelting and cement, which is seeking to improve the efficiency and reliability of equipment. Typically such an organisation will also be engaged in implementing competitive systems and practices. As continuous manufacturers, such as the chemical, hydrocarbons and refining sectors, are often also major hazard facilities this will influence the proactive maintenance choices which need to be made.

The unit covers the selection of appropriate strategies, techniques and tools and the adapting of them to the organisation’s needs. It also covers the application of the strategies to new areas and the improvement of operation in existing areas. This would typically be done in a team environment and in consultation with all key stakeholders.

This unit requires the application of skills associated with problem solving, initiative, enterprise, planning and organising in order to adapt a proactive maintenance strategy to meet specific needs of the enterprise. This work is done in the context of using computer technology and also requires aspects of self-management and learning to ensure improvement of own performance.

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

Pre-requisite Unit

Nil

Competency Field

Competitive systems and practices

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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	**Interpret proactive maintenance strategy**	1.1	Analyse proactive maintenance strategy.
		1.2	Identify areas which may conflict with hazard or operations requirements.
		1.3	Analyse data arising from incident reports (and similar) for maintenance implications.
		1.4	Compile hazard control implications for proactive maintenance strategy.
2	**Interpret hazard information**	2.1	Analyse hazard and operability studies (HAZOP) (or similar) data for maintenance implications.
		2.2	Analyse safety case (or similar) data for maintenance implications.
		2.3	Compile hazard control implications for proactive maintenance strategy.
3	**Identify shutdown/ turnaround cycle requirements**	3.1	Determine when the next shutdown is due and the expected time between shutdowns.
		3.2	Identify plant items/maintenance activities which can only be completed during a shutdown.
		3.3	Identify critical conditions which must not be breached in order to maintain plant reliability until shutdown.
		3.4	Compile shutdown cycle requirements for proactive maintenance strategy.
4	**Identify maintenance**	4.1	Identify proactive maintenance requirements of ancillary equipment.

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	requirements of ancillary equipment	4.2	Identify maintenance which can only be done when the plant is shut down.
		4.3	Compile ancillary equipment requirements for proactive maintenance strategy.
5	**Adapt proactive maintenance strategy**	5.1	Compare identified requirements to the proactive maintenance strategy.
		5.2	Negotiate a proactive maintenance strategy which meets these requirements.
		5.3	Involve team members in relating identified problems and opportunities for improvement to the maintenance strategy, and involve them in developing any required changes to ensure awareness, learning and commitment.
		5.4	Monitor the implementation of the strategy to ensure the identified requirements are met.
		5.5	Make required adjustments and arrange for strategy review.

Foundation Skills

This section describes those required skills (language, literacy and numeracy) 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.

Competitive systems and practices include one or more of:	• lean operations • agile operations • preventative and predictive maintenance approaches • statistical process control systems, including six sigma and three

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	sigma • Just in Time (JIT), kanban and other pull-related operations control systems • supply, value, and demand chain monitoring and analysis • 5S • continuous improvement (kaizen) • breakthrough improvement (kaizen blitz) • cause/effect diagrams • overall equipment effectiveness (OEE) • takt time • process mapping • problem solving • run charts • standard procedures • current reality tree.
Ancillary equipment includes one or more of:	• boilers • utilities • plants • waste treatment and hazard control equipment (e.g. fire ring mains, fire monitors, steam curtains, gas (or other loss of containment) monitors, blast protection and flare stacks).

Unit Mapping Information

Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=5b04f318-804f-4dc0-9463-c3fb9a3fe998

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Assessment Requirements for MSS405082 Adapt a proactive maintenance strategy to the process operations sector

Modification History

Not applicable.

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 the ability, for one (1) or more continuous manufacturing processes/areas, to:

- analyse hazards and risks and determine implications for proactive maintenance strategies
- consider a variety of proactive maintenance strategies for suitability to an organisation
- consult operators, maintenance, management and other stakeholders in decisions on proactive maintenance strategies
- monitor implementation of selected proactive maintenance strategies and make appropriate adjustments.

Knowledge Evidence

Must provide evidence that demonstrates sufficient knowledge to interact with relevant personnel and be able to adapt a proactive maintenance strategy, including knowledge of:

- continuous manufacturing equipment and products of the organisation
- start-up, shutdown and isolation considerations for the organisation
- skills required by operators and maintenance personnel to achieve effective proactive maintenance strategy implementation
- characteristics and strengths of different types of strategies, techniques and tools
- holistic costs of different strategies combining cost of maintenance with costs of lost production, sales, and so on, as relevant to the organisation
- business goals sufficient to match the strategy to the business needs
- strategic thinking and its application to proactive maintenance
- principles of process equipment and how to improve its reliability
- resources required and how to obtain them.

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 is best done from a report and/or folio of evidence drawn from:
  - a single project which provides sufficient evidence of the requirements of all the elements and performance criteria

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  - multiple smaller projects which together provide sufficient evidence of the requirements of all the elements and performance criteria.
- A third-party report, or similar, may be needed to testify to the work done by the individual, particularly when the project has been done as part of a project team.
- Assessment should use a real project where proactive maintenance strategies are being applied to new areas and/or for the improvement of operation in existing areas in an operational continuous manufacturing workplace.
- Knowledge evidence may be collected concurrently with performance evidence 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.
- Assessors must satisfy the assessor competency requirements that are in place at the time of the assessment as set by the VET regulator.
- The assessor must demonstrate both technical competency and currency.
- Technical competence can be demonstrated through:
  - relevant VET or other qualification/Statement of Attainment AND/OR
  - relevant workplace experience
- Currency can be demonstrated through:
  - performing the competency being assessed as part of current employment OR
  - having consulted with an organisation providing relevant environmental monitoring, management or technology services about performing the competency being assessed within the last twelve months.

Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=5b04f318-804f-4dc0-9463-c3fb9a3fe998

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MSS405084 Manage people relationships

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 manage the human relationship aspects of implementing and operating competitive systems and practices.

This unit applies to managers, technical specialists or similar who will apply strong communication, teamwork, planning and problem solving skills to manage effective relationships.

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

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	**Confirm organisation competitive systems and practices status**	1.1 Establish number and status of competitive systems and practices techniques being used within the organisation
		1.2 Identify key performance indicators (KPIs) for each technique
		1.3 Identify key sections and value stream members responsible for each KPI

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Elements describe the essential outcomes.		Performance criteria describe the performance needed to demonstrate achievement of the element.	
		1.4	Identify key personnel for communications
2	**Develop an open environment**	2.1	Establish and maintain regular dialogue between all levels and relevant sections of the organisation
		2.2	Encourage a flow of communications in both directions
		2.3	Develop and maintain a formal mechanism for the flow of issues, concerns and suggestions in both directions
		2.4	Develop and maintain regular and frequent communication with all key stakeholders
3	**Identify significant issues**	3.1	Identify current and potential issues in liaison with team members and stakeholders
		3.2	Assist team members and stakeholders to formulate issues
		3.3	Identify and define boundary and non-negotiable issues for all team members and stakeholders
		3.4	Negotiate with team members and stakeholders over actual and potential issues
4	**Proactively resolve issues**	4.1	Liaise with team members and stakeholders to develop agreed and win-win solutions
		4.2	Negotiate acceptable solutions in accordance with organisation practices and procedures
		4.3	Obtain any required official authorisations
		4.4	Consult with stakeholders to develop implementation plan
		4.5	Implement solution according to plan
5	**Monitor ongoing**	5.1	Determine KPIs for plan

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Elements describe the essential outcomes.	Performance criteria describe the performance needed to demonstrate achievement of the element.
situation	5.2 Check that implementation is proceeding to plan
	5.3 Check for unforeseen consequences
	5.4 Take action to resolve any arising issues

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 MSS405011 Manage people relationships.

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

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Assessment Requirements for MSS405084 Manage people relationships

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:

- managed the human relationship aspects of implementing and operating competitive systems and practices for at least 1 work area.

Knowledge Evidence

There must be evidence the candidate has knowledge of:

- competitive systems and practices tools used in own workplace
- formal communication mechanisms
- work health and safety (WHS) and regulatory requirements, codes of practice, standards, risk management and registration requirements relevant to the task
- change implementation contacts and procedures for the organisation
- employee assistance mechanisms in the organisation
- current processes and principles of operation sufficient to enable communication with others on the impact of competitive operational changes
- sources of data on the process or plant and applications to information distribution
- methods of determining own skill needs and developing skills.

Assessment Conditions

Skills must have been demonstrated in the workplace or in a simulated environment that reflects workplace conditions, contingencies, facilities, equipment and resources.

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

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MSS405086 Develop sustainable energy practices

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 required by an individual to identify opportunities for, and make improvements in, sustainable energy practices in an organisation. This includes efficient use of raw materials, management of waste, electricity conservation, heat conservation and management, water management, environment protection and environment obligations of organisations.

The unit involves analysis of energy used in processes and operations and categorising the energy use according to lean principles. The unit covers categorising energy into necessary use and muda (waste) with the muda being further categorised into necessary muda and unnecessary muda. Strategies for eliminating or minimising energy muda are covered with cost benefit analyses being required for strategies.

This unit applies to a manager, technical specialist or similar who is required to use problem solving, initiative, planning and organising skills to develop plans for efficient energy use.

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

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	**Analyse energy**	1.1	Identify all energy consuming processes

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Elements describe the essential outcomes.		Performance criteria describe the performance needed to demonstrate achievement of the element.	
	use	1.2	Determine quantity and nature of energy consumed
		1.3	Analyse energy consumed and generated in different parts of the process
		1.4	Determine source of energy consumed in process
2	**Develop energy conservation plans**	2.1	Determine the efficiency of use of energy by all energy consuming processes
		2.2	Determine causes of low efficiency of use
		2.3	Develop plans for increasing the efficiency of energy use
		2.4	Calculate cost benefit of plans
3	**Develop energy trading plans**	3.1	Compare energy generating activities with energy consuming activities
		3.2	Determine feasibility of energy consuming activities using energy generated by other activities
		3.3	Develop plans for energy trading
		3.4	Calculate cost benefit of plans
4	**Investigate alternative sources of energy**	4.1	Write a specification for energy required
		4.2	Identify sources for that energy
		4.3	Calculate cost benefit for alternative energy sources
5	**Develop plans for more efficient energy use**	5.1	Compare cost benefit for different alternatives developed
		5.2	Rank proposals based on cost benefit compared to limited resources

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Elements describe the essential outcomes.	Performance criteria describe the performance needed to demonstrate achievement of the element.	
	5.3	Check proposals meet regulatory requirements
	5.4	Recommend proposals for improving energy efficiency
6 **Implement selected plans**	6.1	Liaise with relevant people to implement energy efficiency plans
	6.2	Follow through to ensure implementation occurs
	6.3	Monitor implementation and adjust
	6.4	Check new energy usage to ensure improvements have occurred

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 MSS405070 Develop sustainable energy practices.

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

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Assessment Requirements for MSS405086 Develop sustainable energy practices

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:

- developed sustainable energy practices for at least 1 organisation.

Knowledge Evidence

There must be evidence the candidate has knowledge of:

- sources of data and required calculations
- types and sources of energy
- methods of analysing energy efficiency for different types of energy
- methods of converting energy values from one form to another
- alternative sources of energy
- principles of energy efficiency
- sustainability regulatory and legislative requirements
- energy trading schemes and procedures
- organisation and process needs for energy
- muda (waste) including: necessary and unnecessary

Assessment Conditions

Skills must have been demonstrated in the workplace or in a simulated environment that reflects workplace conditions, contingencies, facilities, equipment and resources.

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

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MSTCL2001 Use a sewing machine

Modification History

Release 1. Supersedes and is equivalent to LMTCL2001B Use a sewing machine

Application

This unit of competency covers the skills and knowledge required to use a sewing machine to align and sew work pieces.

The unit of competency applies to sewing techniques where the positioning of the work is controlled by guide bars, sensor lights or other such guiding devices, or where there is uncomplicated feeding of the fabric.

Work is conducted according to defined procedures.

Work may be conducted in small to large scale enterprises and may involve individual and team activities.

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

Pre-requisite Unit

Nil

Competency Field

Clothing production

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.

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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 to use sewing machine**	2.1	Receive work pieces, check specification sheets and plan follow-up action
		2.2	Check that the bundle matches ticket information and that previous operations, such as pressing and cutting, have been successfully completed
		2.3	Lay out work pieces in sequence
		2.4	Set up workbench and seating according to workplace procedures
		2.5	Clean, check, set up and adjust machines according to specifications for work
		2.6	Identify poor machine performance and adjust as required
3	**Sew work pieces**	3.1	Sew pieces according to product requirements and quality standards
		3.2	Use machine according to requirements for speed of work
		3.3	Control machine speed and work handling according to type of operations, fabrics and product type
4	**Assess quality of sewn pieces**	4.1	Inspect sewn pieces against quality standards
		4.2	Identify any faults or pieces that do not meet quality standards and report
		4.3	Record results of quality inspection

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4.4	Complete production records or packing slips as required
4.5	Direct work to next operation or packing section

Foundation Skills

This section describes those required skills (language, literacy and numeracy) 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.

Workplace procedures include one or more of the following:	• requirements prescribed by legislation, awards, agreements and conditions of employment • SOPs • work instructions • PPE • oral, written and visual communication • quality practices, including responsibility for maintenance of own work quality and contribution to quality improvement of team or section output • housekeeping • tasks related to environmental protection, waste disposal, pollution control and recycling • WHS practices
Australian Standards include:	• the relevant industry or Australian Standards that are current at the time this unit is being undertaken
Machines include:	Automatic machines used to perform basic machining tasks where feeding and positioning of fabric is guided by the machine, including one or more of the following: • plain lockstitch machine

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	• three thread overlocker • zigzag sewing machine
Fabrics include one or more of the following	• stable woven and knitted fabrics, such as cotton drill, calico, double knit, rugby knit and poplin
Set-up includes the following:	• ensuring correct thread, needle size and type, needle guard, tension setting and attachments
Identify poor machine performance includes the following:	• identifying worn or damaged parts, and reporting or replacing according to manufacturer specifications • identifying tension faults • identifying poor thread performance or incorrect thread selection • identifying incorrect foot or needle for sewing • identifying impact of poor machine performance on sewing • checking and replacing worn or damaged needles and attachments (feet)
Sewing operations include the following:	• aligning and sewing straight seams • joining flat pieces of stable fabric together • top stitch, edge stitch, open seams, closed seams and lapped seams

Unit Mapping Information

Release 1. Supersedes and is equivalent to LMTCL2001B Use a sewing machine

Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=a203ec5c-de7d-406b-b3e1-8f1a9b76e92e

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Assessment Requirements for MSTCL2001 Use a sewing machine

Modification History

Release 1. Supersedes and is equivalent to LMTCL2001B Use a sewing machine

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:

- reading and following work instructions, standard operating procedures (SOPs) and safe work practices
- checking work against ticket information or specification sheets
- preparing workstation tools and equipment
- performing basic machining tasks where feeding and positioning of fabric is guided by the machine, using at least two (2) different fabrics, to sew at least one (1) sample of each of the following operations:
  - aligning and sewing straight seams
  - joining flat pieces of stable fabric together
  - top stitch, edge stitch, open seams, closed seams and lapped seams
- sewing and doing routine maintenance on at least one (1) of the following machines:
  - plain lockstitch machine
  - three thread overlocker
  - zigzag machine
- inspecting completed work to check quality and production output requirements, and identifying and correcting faults
- recording results of quality inspection and completing production records or packing slips as required.

Knowledge Evidence

Evidence must be provided that demonstrates knowledge of:

- safe work practices and procedures and use of personal protective equipment (PPE)
- garment assembly processes and machines where the positioning of the work may be controlled by guide bars, sensor lights or other such guiding devices, or where there is uncomplicated feeding of the fabric
- techniques in using and maintaining one or more automatic machines:
  - plain lockstitch machine
  - three thread overlocker
  - zigzag machine
- characteristics of stable woven and knitted fabrics and threads, such as cotton drill, calico, double knit, rugby knit and poplin

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- quality standards and practices
- workplace procedures
- recording and reporting practices.

Assessment Conditions

- Assessors must:
  - satisfy the assessor competency requirements that are in place at the time of the assessment, as set by the VET regulator
  - have vocational competency in using a sewing machine, at least to the level being assessed, with relevant industry knowledge and experience.
- 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 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.

Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=a203ec5c-de7d-406b-b3e1-8f1a9b76e92e

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MSTCL2006 Press work

Modification History

Release 1. Supersedes and is equivalent to LMTCL2006B Press work

Application

This unit of competency covers the skills and knowledge required to press work as part of the garment production process.

The unit of competency applies to pressing work where the position and handling of work are under the control of the operator and operator skills may contribute to the final appearance and finish of the work. The operator uses skills in positioning and shaping of the garment which makes a significant contribution to the final appearance of the garment.

Work to be pressed may include stable woven and knitted natural and synthetic fabrics.

Work is conducted according to defined procedures.

Work may be conducted in small to large scale enterprises and may involve individual and team activities.

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

Pre-requisite Unit

Nil

Competency Field

Clothing production

Unit Sector

Not applicable

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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 to press work**	2.1	Set up work area according to workplace procedures
		2.2	Clean and check pressing equipment
		2.3	Perform routine minor maintenance
		2.4	Collect or receive work, check quality and determine any follow-up action
3	**Press work**	3.1	Lay out work in correct proximity and sequence
		3.2	Identify faults, spots and marks and take appropriate action
		3.3	Select and use appropriate attachments
		3.4	Sequence pressing
		3.5	Position work on pressing equipment according to product requirement
		3.6	Apply heat, steam, vacuum, pressure and time according to product requirements and fabric specifications
		3.7	Control equipment and work handling for variations in work type and construction and pressing requirements
		3.8	Position and shape the garment to contribute to the final appearance

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4	**Despatch pressed work**	4.1	Inspect pressed work and compare against workplace pressing standards
		4.2	Record results of inspection and report and record subsequent action to either reject or correct faulty work
		4.3	Determine and record preventative action to avoid any recurrence of faulty work
		4.4	Pass pressed work to next operation, or hang or pack it and direct to required despatch area, despatch storage or packing sections

Foundation Skills

This section describes those required skills (language, literacy and numeracy) 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.

Workplace procedures include one or more of the following:

- requirements prescribed by legislation, awards, agreements and conditions of employment
- SOPs
- work instructions
- personal protective equipment (PPE)
- oral, written and visual communication
- quality practices, including responsibility for maintenance of own work quality and contribution to quality improvement of team or section output
- housekeeping
- tasks related to environmental protection, waste disposal, pollution control and recycling
- WHS practices

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Australian Standards include:	• the relevant industry or Australian Standards that are current at the time this unit is being undertaken
Fabrics include one or more of the following:	• woven cottons • denim • single knits • tricot • gabardine • cotton drill • calico • double knit • rugby knit • poplin
Pressing equipment includes one or more of the following:	• irons • presses • industrial steam irons • suction boards • sleeve board • sleeve roll
Routine minor maintenance includes one or more of the following:	• washing out or replacing cover and padding • shaking out rubber mat • brushing and air blowing wire mesh • applying sole-cleaning compounds to hand irons
Report and record includes one or more of the following:	• written records • shown by the attachment of a ticket • oral or written reports

Unit Mapping Information

Release 1. Supersedes and is equivalent to LMTCL2006B Press work

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Links

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Assessment Requirements for MSTCL2006 Press work

Modification History

Release 1. Supersedes and is equivalent to LMTCL2006B Press 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, and include:

- reading and following work instructions, standard operating procedures (SOPs), safe work practices
- applying relevant standards
- checking work against work specification or pressing instructions
- preparing pressing equipment and work before commencing pressing operations
- applying pressing techniques for positioning and shaping of the garment, for a range of different fabric types and at least two (2) work pieces according to workplace procedures and quality requirements
- controlling equipment and handling work for variations in work type and construction and pressing requirement, including positioning and shaping the garment to contribute to the final appearance
- inspecting pressed work and comparing against workplace pressing standards
- recording results of inspection, reporting and recording subsequent action to either reject or correct faulty work
- determining and recording preventative action to avoid any recurrence of faulty work
- finalising pressing operation for storage, packing or despatch operations, according to workplace requirements.

Knowledge Evidence

Evidence must be provided that demonstrates knowledge of:

- safe work practices and procedures and use of personal protective equipment (PPE)
- relevant Australian Standards
- pressing requirements and characteristics of typical fabrics and other materials used in garment assembly
- sewing techniques, such as pleats, tucks, gathers, darts and hems, and how pressing impacts on the finish
- quality standards and practices
- workplace practices
- recording and reporting practices.

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Assessment Conditions

- Assessors must:
  - satisfy the assessor competency requirements that are in place at the time of the assessment, as set by the VET regulator
  - have vocational competency in pressing work, at least to the level being assessed, with relevant industry knowledge and experience.
- 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 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.

Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=a203ec5c-de7d-406b-b3e1-8f1a9b76e92e

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MSTCL2007 Lay up, mark and cut uncomplicated fabrics and lays

Modification History

Release 1. Supersedes and is equivalent to LMTCL2007B Lay up, mark and cut uncomplicated fabrics and lays

Application

This unit of competency covers the skills and knowledge required to lay up, mark and cut uncomplicated fabrics and lays.

The unit of competency applies to situations where single garments or only a couple of layers of fabric are to be cut. The marker may be developed directly on the fabric lay or planned separately and applied.

Manual or computer-aided techniques may be used.

Work may be conducted in small to large scale enterprises and may involve individual and team activities.

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

Pre-requisite Unit

Nil

Competency Field

Clothing production

Unit Sector

Not applicable

Elements and Performance Criteria

Elements describe the Performance criteria describe the performance needed to

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essential outcomes.		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 to cut fabrics and lays**	2.1	Set up working area
		2.2	Interpret lay-up instructions for uncomplicated articles
		2.3	Collect and check fabric
		2.4	Interpret cutting order for marking requirements, such as fabric type, width, quantity and garment sizes
3	**Draft and position lay marker**	3.1	Collect required pattern pieces and check manually or by computer
		3.2	Manipulate pattern pieces and position manually on paper or by computer for most efficient fabric use
		3.3	Draw up lay marker manually or by computer
		3.4	Prepare lay-up instructions according to requirements
		3.5	Check marker against requirements and copy marker either manually or digitally by computer, camera or smartphone
		3.6	Place marker on lay, check marker and lay alignment, and take appropriate action according to job specifications
4	**Cut lay and complete work**	4.1	Cut lay using cutting equipment according to operation requirements
		4.2	Monitor work quality and check for faults

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4.3 Direct cut work to next operation, clean work area and prepare for next job

4.4 Store master copy of lay marker in filing drawer or computer as appropriate

Foundation Skills

This section describes those required skills (language, literacy and numeracy) 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.

Workplace procedures include one or more of the following:

- requirements prescribed by legislation, awards, agreements and conditions of employment
- SOPs
- work instructions
- oral, written and visual communication
- quality practices, including responsibility for maintenance of own work quality and contribution to quality improvement of team or section output
- housekeeping
- tasks related to environmental protection, waste disposal, pollution control and recycling
- WHS practices

Australian Standards include:

- the relevant industry or Australian Standards that are current at the time this unit is being undertaken

Uncomplicated articles include one or more of the following:

- t-shirts
- straight or A-line skirts
- shift dresses
- tracksuits

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- section crowns
- brims
- tips
- side bands
- berets

Cutting equipment includes one or more of the following:

- dressmaker's shears
- cutting mats
- straight-blade cutter

Lay-up and marking equipment includes one or more of the following:

- computers and required software
- digital camera
- smartphone
- patterns
- fabric
- marker card or paper
- weights
- clamps

Fabrics include one or more of the following:

- woven fabrics, such as:
  - poplin
  - drill
  - flannelette
- knitted fabrics, such as:
  - rugby knit
  - double knit
- designs such as:
  - stripes
  - one-way designs
  - plaids

Unit Mapping Information

Release 1. Supersedes and is equivalent to LMTCL2007B Lay up, mark and cut uncomplicated fabrics and lays

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Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=a203ec5c-de7d-406b-b3e1-8f1a9b76e92e

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Assessment Requirements for MSTCL2007 Lay up, mark and cut uncomplicated fabrics and lays

Modification History

Release 1. Supersedes and is equivalent to LMTCL2007B Lay up, mark and cut uncomplicated fabrics and lays

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:

- reading and following work instructions, standard operating procedures (SOPs), safe work practices
- applying relevant standards
- checking work against work specification or cutting order
- setting up manual or computer drafting equipment before commencement of marker-making operations
- making markers involving patterns, uncomplicated fabrics and lays, using manual or computer techniques on at least two (2) occasions
- preparing cutting table and work before commencing cutting operations
- using lay-up techniques
- using cutting techniques
- monitoring work quality and checking for faults
- directing cut work to next operation, cleaning work area and preparing for next job
- storing master copy of lay marker in filing drawer or computer as appropriate.

Knowledge Evidence

Evidence must be provided that demonstrates knowledge of:

- safe work practices and procedures and use of personal protective equipment (PPE)
- relevant Australian Standards
- set up of work area:
  - setting up workstation, cutting table and seating according to workplace procedures and specifications for work
  - cleaning cutting equipment, checking and assessing servicing according to manufacturer instructions
  - preparing cutting table to suit correct lay length
  - setting up lay-up and marking equipment and preparing for use
- characteristics of fabrics and other materials used in garment assembly, such as woven fabrics (poplin, drill, flannelette) and knitted fabrics (rugby knit, double knit)
- assessing fabric:

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  - checking fabric width and quality with lay-up instructions
  - laying-up fabric and adjusting fabric tension to match fabric performance
  - checking fabric for faults
  - taking required action to cut out faults or other appropriate techniques
- pattern identification
- computer operations involved in marker-making, copying and storage
- quality standards and practices:
  - inspecting cut work
  - identifying any faults
  - taking appropriate action to ensure cut pieces meet required quality standards
  - taking preventative action to avoid any recurrence of defective pieces
  - recording preventative action
  - regularly checking performance of cutting equipment for signs of faulty operation, including evidence from inspection of cut pieces, and taking any required action
- workplace procedures
- recording and reporting practices.

Assessment Conditions

- Assessors must:
  - satisfy the assessor competency requirements that are in place at the time of the assessment, as set by the VET regulator
  - have vocational competency in laying up, marking and cutting uncomplicated fabrics and lays, at least to the level being assessed, with relevant industry knowledge and experience.
- 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 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.

Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=a203ec5c-de7d-406b-b3e1-8f1a9b76e92e

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MSTCL2008 Finish garment production

Modification History

Release 1. Supersedes and is equivalent to LMTCL2008B Finish garment production

Application

This unit of competency covers the skills and knowledge required to finish completed work in the production of garments or other associated articles.

The unit of competency applies to hand or machine tasks. Work performed may require some decision making within defined procedures.

Work may be conducted in small to large scale enterprises and may involve individual and team activities.

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

Pre-requisite Unit

MSTGN2011 Identify fibres, fabrics and textiles used in the TCF industry

Competency Field

Clothing production

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	**Determine job**	1.1	Follow standard operating procedures (SOPs)

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	requirements	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 workstation**	2.1	Set up workbench and seating according to safety standards and workplace procedures
		2.2	Lay out components in proximity and sequence according to specifications
3	**Finish work**	3.1	Perform finishing operations according to customer specifications
		3.2	Check garment or article against specifications to ensure correct sizing and attention to loose threads and missing buttons and attachments
		3.3	Identify and report faults, and return to appropriate section for repair according to quality standards
		3.4	Complete production and other records

Foundation Skills

This section describes those required skills (language, literacy and numeracy) 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.

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Workplace procedures include one or more of the following:	• requirements prescribed by legislation, awards, agreements and conditions of employment • SOPs • work instructions • oral, written and visual communication • quality practices, including responsibility for maintenance of own work quality and contribution to quality improvement of team or section output • housekeeping • tasks related to environmental protection, waste disposal, pollution control and recycling • WHS practices
Australian Standards include:	• the relevant industry or Australian Standards that are current at the time this unit is being undertaken
Components include one or more of the following:	• tags • trims • garments • buttons • fasteners • labels • belt and button loops
Finishing operations include one or more of the following:	• trimming loose threads • checking • spotting • sorting • hand or machine sewing buttons or fasteners • hand or machine sewing hems • securing lining • sewing and cutting buttonholes • attaching accessories or trims • attaching tickets and labels • bundling

Unit Mapping Information

Release 1. Supersedes and is equivalent to LMTCL2008B Finish garment production

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Links

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Assessment Requirements for MSTCL2008 Finish garment production

Modification History

Release 1. Supersedes and is equivalent to LMTCL2008B Finish garment 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 include:

- reading and following work instructions, standard operating procedures (SOPs), safe work practices
- applying relevant standards
- preparing work area, materials and equipment, and specifications for sequence of operations
- checking garment or article against specifications to ensure correct sizing and attention to loose threads, and missing buttons and attachments on at least two (2) occasions
- attaching correct components to at least two (2) garments and articles
- completing finishing operations
- ensuring finished garment meets specifications
- identifying and reporting faults, and returning to appropriate section for repair according to quality standards
- completing production and other records.

Knowledge Evidence

Evidence must be provided that demonstrates knowledge of:

- safe work practices and procedures and use of personal protective equipment (PPE)
- relevant Australian Standards
- characteristics of typical fabrics and other materials used in garment production
- quality standards and practices
- correct sequencing of components
- required finishing procedures
- industry and product processes and equipment
- workplace procedures
- recording and reporting practices.

Assessment Conditions

- Assessors must:

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    - satisfy the assessor competency requirements that are in place at the time of the assessment, as set by the VET regulator
    - have vocational competency in finishing garment production, at least to the level being assessed, with relevant industry knowledge and experience.
- 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 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.

Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=a203ec5c-de7d-406b-b3e1-8f1a9b76e92e

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MSTGN2008 Coordinate work of team or section

Modification History

Release 1. Supersedes and is equivalent to LMTGN2008B Coordinate work of team or section

Application

This unit of competency covers the skills and knowledge required to coordinate work of a team or section.

The unit of competency applies to coordinating and monitoring the work of a team or section.

Work requires discretion, initiative and judgement. Work may be conducted in a variety of environments, such as operational workplace activities, restricted space, and hazardous, controlled or exposed conditions.

This unit of competency is applicable to all sectors of the textiles, clothing and footwear (TCF) industry.

Work may be conducted in small to large scale enterprises and may involve individual and team activities.

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

Pre-requisite Unit

Nil

Competency Field

Generic

Unit Sector

Not applicable

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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 coordinate work schedules**	2.1	Confirm tasks, jobs and work priorities with supervisor or manager
		2.2	Use appropriate procedure to assign materials and tasks to team, section and individuals
		2.3	Establish and communicate priority of tasks to team, section or individuals
		2.4	Organise materials to meet work requirements
3	**Monitor performance and quality**	3.1	Communicate orally or in writing with team, section or individuals to establish required work standard and ensure understanding of task requirements
		3.2	Monitor and report standard of performance, including quality standards of team, section or individuals, to ensure achievement of outcomes
		3.3	Provide instruction and support as required to achieve standards and outcomes
		3.4	Communicate proposals for improvements to work processes, efficiency and organisation to appropriate personnel
		3.5	Identify proposals to prevent or correct problems and report to appropriate personnel, according to workplace procedures

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4	**Communicate with work team, section and individuals**	4.1	Monitor implementation of WHS and environmental standards and procedures and provide feedback to work team, section and individuals
		4.2	Use effective communication to explain work related information
		4.3	Seek feedback from team, section members and individuals to help team work effectively

Foundation Skills

This section describes those required skills (language, literacy and numeracy) 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.

Workplace procedures include one or more of the following:

- requirements prescribed by legislation, awards, agreements and conditions of employment
- SOPs
- work instructions
- oral, written and visual communication
- quality practices, including responsibility for maintenance of own work quality and contribution to quality improvement of team or section output
- housekeeping
- tasks related to environmental protection, waste disposal, pollution control and recycling
- WHS practices

Appropriate personnel include, but are not limited to, one or more of the following:

- line supervisor or manager
- team or section leaders
- supervisors or managers in other sections

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- technical specialists

Unit Mapping Information

Release 1. Supersedes and is equivalent to LMTGN2008B Coordinate work of team or section

Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=a203ec5c-de7d-406b-b3e1-8f1a9b76e92e

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Assessment Requirements for MSTGN2008 Coordinate work of team or section

Modification History

Release 1. Supersedes and is equivalent to LMTGN2008B Coordinate work of team or section

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:

- reading and following work instructions, standard operating procedures (SOPs), safe work practices
- prioritising and organising resources (machines, staff, materials and production processes) and allocating work
- using appropriate procedures to assign materials and tasks to team, section and individuals
- providing instruction and advice
- maintaining and monitoring procedures
- identifying and reporting problems with work flow
- analysing and recording results according to workplace procedures
- using effective oral and written communication to explain work related information and seek feedback from team, section members and individuals to help team work effectively
- monitoring and reporting on performance and quality standards, and providing instruction and support as required to achieve standards and outcomes.

Knowledge Evidence

Evidence must be provided that demonstrates knowledge of:

- safe work practices and procedures and use of personal protective equipment (PPE)
- production and work flow system in the team
- factors and constraints that impact on effective work flow
- effective work methods to achieve production objectives and timelines
- procedures to allocate tasks:
  - expression of interest
  - worker preference or choice
  - ballot
  - line supervisor directive
  - team consensus
- problem prevention and resolution
- methods for monitoring and coordinating the use of resources

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- quality assurance standards and practices
- effective communication:
  - effective verbal and non-verbal communication
  - oral, written and visual communication
  - active listening
  - positive language
  - recognising and adapting to cultural differences
  - negotiation and conflict resolution skills
- workplace procedures
- recording and reporting practices.

Assessment Conditions

- Assessors must:
  - satisfy the assessor competency requirements that are in place at the time of the assessment, as set by the VET regulator
  - have vocational competency in coordinating work of a team or section, at least to the level being assessed, with relevant industry knowledge and experience.
- 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 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 unit is applicable to all TCF sectors and assessment must ensure it is delivered to suit the industry it is being applied to.

Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=a203ec5c-de7d-406b-b3e1-8f1a9b76e92e

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MSTGN2011 Identify fibres, fabrics and textiles used in the TCF industry

Modification History

Release 1. Supersedes:

- LMTCL2003B Identify fibres and fabrics
- LMTTX2001B Identify fibres, yarns and textile materials and their uses in textile production

Not equivalent

Application

This unit of competency covers the skills and knowledge required to identify fibres, yarns, fabrics and textile materials and how they are used in the construction of garments and accessories and in textile production processes.

The unit of competency applies to a range of natural and synthetic materials which may be used for knitted, woven, spun, tufted or non-woven products. While the unit relates to a comprehensive coverage of textile, clothing and footwear (TCF) materials, evidence may be contextualised to a sector or workplace.

The unit of competency applies to work conducted in all clothing design, production and merchandising, and textile production and finishing processes using fibres, yarns and textile materials.

This unit of competency is applicable to all sectors of the TCF industry.

Work may be conducted in small to large scale enterprises and may involve individual and team related activities.

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

Pre-requisite Unit

Nil

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Competency Field

Generic

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	**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	**Distinguish types of TCF materials**	2.1	Recognise types of fibres and yarns, fabrics and textile materials used in the manufacture of clothing and textile products
		2.2	Identify methods of distinguishing and identifying fibres, yarns or textile materials
		2.3	Identify common and emerging fabrics used in the garment industry
		2.4	Identify processes used on raw fibres, basic processed yarns or finished yarns to create textiles
		2.5	Identify generic and trade names for common fabrics and textile materials
3	**Identify characteristics of**	3.1	Identify fibres used in construction of a variety of fabrics
		3.2	Identify construction processes of a range of fabrics

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	fabrics	3.3	Examine a range of fabric types and identify physical and visual qualities
		3.4	Identify generic and trade names for common fabrics and textile materials
4	**Distinguish methods of constructing fabric and textile material**	4.1	Identify the purposes of processing stages
		4.2	Distinguish basic processes of spinning fibres into yarns or processing yarns into knitted, woven or non-woven textile material
		4.3	Identify textile product construction processes
		4.4	Identify uses of different types of fibres and yarns and their effects on finished products
5	**Identify uses of fabrics and textiles**	5.1	Identify common uses of a variety of fabrics and labelling requirements
		5.2	Identify a range of textile products and their end uses and labelling requirements
		5.3	Identify methods of measuring fabric and textile material quality in an identified workplace
		5.4	Identify the impact of quality on production processes

Foundation Skills

This section describes those required skills (language, literacy and numeracy) 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.

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Workplace procedures include one or more of the following:	• requirements prescribed by legislation, awards, agreements and conditions of employment • SOPs • work instructions • oral, written and visual communication • quality practices, including responsibility for maintenance of own work quality and contribution to quality improvement of team or section output • housekeeping • tasks related to environmental protection, waste disposal, pollution control and recycling • WHS practices
Australian Standards include:	• Australian/New Zealand Standard *AS/NZS 1957:1998 Textiles - Care labelling* applies to this unit at the time of publication. • the relevant industry or Australian Standards that are current at the time this unit is being undertaken
Fibres and yarns include, but are not limited to:	• natural fibres, such as cotton, wool, silk and linen • synthetic fibres, such as polyamide, polyester, acrylic, lycra, rayon and acetate
Fabrics and textiles include, but are not limited to:	• natural and synthetic single yarn fabrics and blends • knitted fabrics, including weft knits and warp knits • woven fabrics, including plain, twill, satin, dobby, jacquard and pile • non-woven fabrics, such as felts, nets, braids, bonded and composite • emerging smart fabrics
Construction processes include, but are not limited to	• spinning • knitting • weaving • blending • fusing • bonding • finishing

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Unit Mapping Information

Release 1. Supersedes:

- LMTCL2003B Identify fibres and fabrics
- LMTTX2001B Identify fibres, yarns and textile materials and their uses in textile production

Not equivalent

Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=a203ec5c-de7d-406b-b3e1-8f1a9b76e92e

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Assessment Requirements for MSTGN2011 Identify fibres, fabrics and textiles used in the TCF industry

Modification History

Release 1. Supersedes:

- LMTCL2003B Identify fibres and fabrics
- LMTTX2001B Identify fibres, yarns and textile materials and their uses in textile production

Not equivalent

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:

- reading and following work instructions, standard operating procedures (SOPs), safe work practices
- applying relevant standards
- identifying at least five (5) types of fibres, yarns, fabrics and textile materials and their labelling requirements according to relevant standards
- identifying at least five (5) textile fibres and yarns used construction processes
- identifying physical and visual properties of at least five (5) common fabrics or textiles, including emerging materials, relevant to sector or enterprise
- distinguishing methods of constructing fabric and textile material
- identifying suitable application and end uses of at least five (5) fibres, yarns, fabrics and textile materials
- comparing fibres, yarns and textile materials to specifications and quality requirements in an identified sector or enterprise.

Knowledge Evidence

Evidence must be provided that demonstrates knowledge of:

- safe work practices and procedures and use of personal protective equipment (PPE)
- AS/NZS 1957:1998 Textiles - Care labelling
- fibre, yarn, fabric and textile identification, such as:
  - natural fibres, such as cotton, wool, silk and linen
  - synthetic fibres, such as polyamide, polyester, acrylic, lycra, rayon and acetate
- types of fabrics and textiles and their construction methods, such as:
  - natural and synthetic single yarn fabrics and blends
  - knitted fabrics, including weft knits and warp knits
  - woven fabrics, including plain, twill, satin, dobby, jacquard and pile

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    - non-woven fabrics, such as felts, nets, braids, bonded and composite
    - emerging smart fabrics
- features and characteristics of fibres, yarns, fabrics and textile materials, such as:
    - bias
    - stretch
    - fraying
    - feel
    - handle
    - shrinkage
- fibres, yarns and textile construction processes, such as:
    - spun
    - ply
    - combo
    - blended
    - crimped
    - monofilament
    - multifilament
    - staple spun
    - technical textiles
- methods of identifying fibres, such as:
    - labelling
    - visual
    - handle
    - acetone
    - burn test
- fabric construction processes, such as:
    - spinning
    - knitting
    - weaving
    - blending
    - fusing
    - bonding
    - finishing
- textile processing
- visual features, such as:
    - colours
    - textures
    - patterns
    - right side/wrong side
- fabric and textile qualities, such as:

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    - firmness
    - softness
    - handle
    - weight
    - grain
    - gauge
    - drape
    - porosity
    - covering power
    - count
    - light penetration
- generic and trade names for common fabrics and textile materials
- fabric and textiles uses
- quality standards and practices
- workplace procedures.

Assessment Conditions

- Assessors must:
    - satisfy the assessor competency requirements that are in place at the time of the assessment, as set by the VET regulator
    - have vocational competency in identifying fibres, fabrics and textiles in the TCF industry, at least to the level being assessed, with relevant industry knowledge and experience.
- 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 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 unit is applicable to all TCF sectors and assessment must ensure it is delivered to suit the industry it is being applied to.

Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=a203ec5c-de7d-406b-b3e1-8f1a9b76e92e

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PMAOMIR407 Audit incident preparedness and established response systems

Modification History

Release 1. Supersedes and is equivalent to PMAOMIR407B Audit incident preparedness and established response systems

Application

This unit of competency covers the skills and knowledge required to assess the extent to which a facility is prepared to respond to an incident.

This unit of competency applies to personnel in incident coordinator/commander, manager or technical specialist or similar roles who are required to examine existing incident response systems and practices, identify key areas where systems overlap or system breakdowns occur, ensure that the established systems are working in accordance to the incident response plan and legislative requirements, conduct and assess incident exercises, and provide input towards system continuous enhancement.

This unit of competency applies to an individual working alone or as part of a team or group and working in liaison with other incident response team members and the incident manager, as appropriate.

An incident is an event which causes, or could have caused, injury or illness; damage to plant, material or the environment; disruption to production or public alarm.

An incident is an unintended event, or an unintended consequence of an intended event. This unit would typically be applied to significant incidents, such as:

- fire and explosion
- loss of containment.

In a typical scenario the person would undertake an analysis of existing incident preparedness and response systems as part of a continuous improvement process or spot check. Part of the audit may involve the conducting of an unscheduled incident response drill, analysing the results and providing a thorough debrief of the persons involved. The person then may make recommendations for changes to the system. They may have an ongoing role for managing incident information and/or the incident information system.

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

Pre-requisite Unit

Nil

Competency Field

Incident readiness and response

Unit Sector

Elements and Performance Criteria

Elements describe the essential outcomes.		Performance criteria describe the performance needed to demonstrate achievement of the element.	
1	**Clearly identify benchmarks for audit**	1.1	Access, interpret and clarify the legislative, statutory and site requirements relating to incident preparedness and response systems
		1.2	Access and review relevant documentation of the incident response plan and established incident management systems
		1.3	Conduct consultations with stakeholders and specialists as necessary
2	**Plan, organise and undertake audit of the established incident response systems**	2.1	Identify or develop methods to audit the established incident management systems and processes as prescribed by the incident response plan and/or legislation in consultation with relevant personnel
		2.2	Identify and secure the resources required to conduct the audit
		2.3	Gather and sight relevant documents and all other evidence required in accordance with procedures
		2.4	Conduct the audit according to the identified/developed methods

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3	**Evaluate and report the results of the audit**	3.1	Evaluate evidence gathered for reliability, validity, authenticity, sufficiency, currency and consistency
		3.2	Promptly bring to the attention of relevant personnel any findings which have serious or immediate risks
		3.3	Disseminate records of the process and outcomes of the audit, including justifiable recommendations complying with procedures, to appropriate personnel in a timely manner
4	**Follow up results of the audit**	4.1	Discuss and confirm results with relevant personnel and provide feedback, including advice on corrective actions
		4.2	Follow up corrective actions relating to deficiencies until resolution has been achieved

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

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All operations to which this unit applies are subject to stringent health, safety and environment (HSE) requirements, which may be imposed through state/territory or federal legislation, and these must not be compromised at any time. Where there is an apparent conflict between performance criteria and HSE requirements, the HSE requirements take precedence.

Systems

Systems to be evaluated for relevance to and effectiveness in incident response include:

- hazard and risk management
- evacuation
- emergency operations structure
- communications
- information management
- documentation and reporting requirements
- resource management
- training
- audit and review system
- financial management

Documents and evidence

Documents and evidence will be selected as relevant from one or more of the following:

- electronic databases
- videos
- photographs
- written information/records/archives
- training and learning programs
- recorded interviews/interview transcripts

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

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- any similar instructions provided for the smooth running of the plant

Unit Mapping Information

Release 1. Supersedes and is equivalent to PMAOMIR407B Audit incident preparedness and established response systems

Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=9fc2cf53-e570-4e9f-ad6a-b228ffdb6875

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Assessment Requirements for PMAOMIR407 Audit incident preparedness and established response systems

Modification History

Release 1. Supersedes and is equivalent to PMAOMIR407B Audit incident preparedness and established response 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 include the ability to:

- communicate effectively with internal and external stakeholders
- audit and evaluate systems, practices and processes relevant to incident response against defined benchmarks
- develop and select methodologies for effective audit and evaluation that comply with any organisation or legislative requirements
- provide input towards system continuous enhancement
- complete reports and records
- identify risks and take appropriate action
- read and interpret information from a range of sources including procedures, reports, numerical information and charts.

Knowledge Evidence

Evidence must be provided that demonstrates knowledge of:

- regulatory framework
- organisational procedures, including those covering:
  - safety, hazards and hazard control
  - incident, fire and accident
  - environmental protection
  - risk assessment/risk management
  - relevant facility fire management and safety systems
  - communication systems
  - emergency response plans
  - audit and review processes
- hazard identification and control
- risk management principles and techniques
- incident containment tactics
- identifying benchmarks for incident response systems
- types and application of audit methods

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- auditing principles.

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 is best done from a report and/or folio of evidence drawn from:
  - a single project which provides sufficient evidence of the requirements of all the elements and performance criteria
  - multiple smaller projects which together provide sufficient evidence of the requirements of all the elements and performance criteria.
- A third-party report, or similar, may be needed to testify to the work done by the individual, particularly when the project has been done as part of a project team.
- Assessment should use a real project in an operational workplace. Where this is not possible or practical, assessment must occur using 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.
- Knowledge evidence may be collected concurrently with performance evidence 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.
- Assessors must satisfy the assessor competency requirements that are in place at the time of the assessment as set by the VET regulator.
- In addition, the assessor or anyone acting in subject matter expert role in assessment must demonstrate both technical competency and currency. If the assessor cannot demonstrate technical competency and currency they must assess with a subject matter expert who does meet these requirements.
- Technical competence can be demonstrated through one or more of:
  - relevant VET or other qualification/Statement of Attainment
  - appropriate workplace experience undertaking the type of work being assessed under routine and non-routine conditions
  - appropriate workplace experience supervising/evaluating the type of work being assessed under routine and non-routine conditions
- Currency can be demonstrated through one or more of:
  - being currently employed undertaking the type of work being assessed

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- being employed by the organisation undertaking the type of work being assessed and having maintained currency in accordance with that organisation's policies and procedures
- having consulted/had contact with an organisation undertaking the type of work being assessed within the last twelve months, the consultation/contact being related to assessment
- conducting on-the-job training/assessments of the type of work being assessed
- being an active member of a relevant professional body and participating in activities relevant to the assessment of this type of work

Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=9fc2cf53-e570-4e9f-ad6a-b228ffdb6875

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PMAOMIR418 Coordinate incident response

Modification History

Release 1. Supersedes and is equivalent to PMAOMIR418B Coordinate incident response

Application

This unit of competency covers the skills and knowledge required to coordinate the response to off-shore or on-shore incidents.

An incident is an event which causes, or could have caused, injury or illness; damage to plant, material or the environment; disruption to production or public alarm.

An incident is an unintended event, or an unintended consequence of an intended event, such as:

- fire and explosion
- loss of containment
- excursions above/below acceptable limits for emissions or plant conditions
- excursions above occupational hygiene or biological exposure limits
- non-compliance with regulatory requirements
- security breaches
- failure to follow procedures
- complaints
- vehicle incidents
- on/off-site incidents.

This unit of competency applies to personnel in incident coordinator/commander, incident control centre team member or similar roles who are required to minimise the escalation of the incident, allocate resources and assets, plan tactical responses, communicate with the incident response team, interact with external agencies required to assist with the emergency, and gather information about the incident.

This unit of competency applies to an individual working alone or as part of a team or group and working in liaison with other incident control centre team members, the incident manager and the incident support management group, as appropriate.

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The incident coordinator is responsible for interactions between corporate headquarters, on-site incident response teams and the person in charge of the facility. There may be more than one incident response team involved depending on the size and complexity of the incident.

The incident control centre and incident manager may be stationed on the facility or away from the facility or plant.

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

Pre-requisite Unit

Nil

Competency Field

Incident readiness and response

Unit Sector

Elements and Performance Criteria

Elements describe the essential outcomes.		Performance criteria describe the performance needed to demonstrate achievement of the element.	
1	**Assess the situation and determine priorities**	1.1	Seek incident information from appropriate on-site personnel
		1.2	Monitor changes in the nature, extent and potential implications of the incident
		1.3	Develop incident response tactics based on analysis of the situation and consistent with the philosophies and strategies of the organisation
		1.4	Identify required resources in accordance with the tactics developed
		1.5	Continually review objectives in light of information updates, reports and feedback

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2	**Manage incident control centre**	2.1	Brief incident control centre personnel on the scenario and tactics, their roles and responsibilities, and of the way the centre will operate
		2.2	Allocate tasks to incident control centre personnel commensurate with their roles and level of competence
		2.3	Monitor performance of incident control centre personnel and review as the incident unfolds to determine ongoing requirements
3	**Liaise with internal management and support structures**	3.1	Regularly brief and provide communications to appropriate personnel in accordance with procedures
		3.2	Monitor and review resources to determine changing requirements in accordance with changing circumstances
		3.3	Ensure resources are available as required
		3.4	Liaise with relevant management and support structures to provide and/or obtain guidance and support
4	**Ensure communications systems are effective**	4.1	Establish communications with personnel at the incident scene
		4.2	Establish communications with other personnel on or off-site as required
		4.3	Ensure communications systems are managed to provide optimum capability
5	**Conclude and review incident activities**	5.1	Account for all personnel and other resources
		5.2	Conduct a debrief and complete company incident reports
		5.3	Evaluate and review tactics and procedures
		5.4	Evaluate and document effectiveness of the control function and its interaction with command organisations
		5.5	Communicate reports in accordance with company procedures

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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

All operations to which this unit applies are subject to stringent health, safety and environment (HSE) requirements, which may be imposed through state/territory or federal legislation, and these must not be compromised at any time. Where there is an apparent conflict between performance criteria and HSE requirements, the HSE requirements take precedence.

Incident response

Incident response includes one or more of the following:

- deployment of site incident response personnel
- containing/controlling the incident at source and or its spread
- search and rescue operations
- engagement of external emergency services (such as fire, ambulance, rescue and military)
- liaison with other agencies (such as environmental, clean-up and specialised troubleshooters)
- evacuation
- hazard control

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Incident response actions must:

- be in accordance with and relevant to organisation procedures
- use appropriate response equipment, where required
- prioritise the safety and/or successful recovery of personnel and others affected by the incident response
- **not** inhibit effectiveness of the incident response or further contribute to the incident

Tools and equipment

Equipment and tools include one or more of the following:

- schematics, designs, detail drawings and maps/charts
- data systems, computers systems and electronic aids
- manuals, designs, operation procedures and instructions
- emergency vehicles or equipment
- vessels and aircraft
- rescue equipment
- first aid equipment

Unit Mapping Information

Release 1. Supersedes and is equivalent to PMAOMIR418B Coordinate incident response

Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=9fc2cf53-e570-4e9f-ad6a-b228ffdb6875

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Assessment Requirements for PMAOMIR418 Coordinate incident response

Modification History

Release 1. Supersedes and is equivalent to PMAOMIR418B Coordinate incident response

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 the ability to:

- communicate effectively with internal and external stakeholders in stressful situations
- develop and amend incident response tactics based on information available
- negotiate and communicate with internal support structures set up to assist with logistics planning, operations and external affairs
- identify resource needs and allocate and manage resources
- complete reports and records
- read and interpret information from a range of sources including procedures, reports, numerical information and charts.

Knowledge Evidence

Evidence must be provided that demonstrates knowledge of:

- regulatory framework
- organisational procedures, including those covering:
  - safety, hazards and hazard control
  - incident, fire and accident
  - environmental protection
  - risk assessment/risk management
  - relevant facility fire management and safety systems
  - communication systems
  - emergency response plans
- hazard identification and control
- incident management techniques and tactics
- operational duration of essential equipment
- how to communicate effectively under stress.

Assessment Conditions

- Competency must be achieved before performing this work unsupervised. Therefore this unit will typically be assessed off the job. Where assessment is undertaken on the job, appropriate supervision and safety precautions must be provided.

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- 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 provide evidence of the ability to perform over the range of situations which might be expected to be encountered, including typical disruptions to normal, smooth work conditions
  - must include coordinating the response to a simulated incident, 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.
- Off-the-job assessment must sufficiently reflect 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.
- Assessment in a simulated environment should use evidence collected from one or more of:
  - walk-throughs
  - 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.
- Assessors must satisfy the assessor competency requirements that are in place at the time of the assessment as set by the VET regulator.
- In addition, the assessor or anyone acting in subject matter expert role in assessment must demonstrate both technical competency and currency. If the assessor cannot demonstrate technical competency and currency they must assess with a subject matter expert who does meet these requirements.
- Technical competence can be demonstrated through one or more of:
  - relevant VET or other qualification/Statement of Attainment
  - appropriate workplace experience undertaking the type of work being assessed under routine and non-routine conditions
  - appropriate workplace experience supervising/evaluating the type of work being assessed under routine and non-routine conditions
- Currency can be demonstrated through one or more of:
  - being currently employed undertaking the type of work being assessed

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- being employed by the organisation undertaking the type of work being assessed and having maintained currency in accordance with that organisation's policies and procedures
- having consulted/had contact with an organisation undertaking the type of work being assessed within the last twelve months, the consultation/contact being related to assessment
- conducting on-the-job training/assessments of the type of work being assessed
- being an active member of a relevant professional body and participating in activities relevant to the assessment of this type of work

Links

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PMAOMIR424 Develop and maintain community relationships

Modification History

Release 1. Supersedes and is equivalent to PMAOMIR424B Develop and maintain community relationships

Application

This unit of competency covers the skills and knowledge required to develop relationships with community stakeholders and facilitate:

- appreciation of the plant's contribution to the economy and the local community
- community contribution to the organisation's ecological and social objectives
- public safety awareness information
- public confidence in the competence of the organisation and its personnel.

This unit of competency applies to persons who are required to identify community stakeholders and information to be communicated, and to plan, implement and evaluate engagement and communication activities.

In a typical scenario the person is a member of the incident team and is designated with the task of ensuring the preparedness of the communities surrounding and/or affected by the facility to respond to an incident. For example, the organisation is preparing to shut down part of the plant for routine maintenance and as part of that process some of the gas will be flared off. This will create a spectacular plume over the plant but because the community is alerted to both timing and what to expect, community panic and concern is limited.

While independent action may sometimes be required, the person is expected to liaise, cooperate and consult with other members of the incident management team as necessary.

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

Pre-requisite Unit

Nil

Competency Field

Incident readiness and response

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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 information that needs to be disseminated to the community**	1.1	Access and examine incident response plans
		1.2	Conduct consultations with appropriate personnel as necessary
2	**Establish networks within the community**	2.1	Identify stakeholders within the community
		2.2	Initiate contact with key community stakeholders
		2.3	Establish and maintain rapport
		2.4	Enlist cooperation and support in organising and conducting public safety awareness activities
3	**Design and conduct public awareness activities**	3.1	Develop a plan in consultation with stakeholders and appropriate personnel
		3.2	Design activities to support the plan in consultation with stakeholders and appropriate personnel
		3.3	Clearly identify measures for assessing the outcome of activities
		3.4	Develop and distribute marketing materials and educational materials/resources appropriate to the context, issue and audience
		3.5	Identify and secure other resources required
		3.6	Develop and implement strategies for delivery of the project to ensure maximum effectiveness
		3.7	Make adjustments as required to meet the needs of specific groups

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4	**Evaluate activities**	4.1	Assess activity outcome against the planned goals/objectives and measures
		4.2	Complete reports detailing activities, results and recommendations according to 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

All operations to which this unit applies are subject to stringent health, safety and environment (HSE) requirements, which may be imposed through state/territory or federal legislation, and these must not be compromised at any time. Where there is an apparent conflict between performance criteria and HSE requirements, the HSE requirements take precedence.

Public awareness

Public awareness activities include one or more of the following:

- distribution of educational materials/resources
- use of media to disseminate information
- public educational presentations
- conduct of, or attendance in, community meetings/forums

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- incident exercises

Information to support public awareness will be selected as relevant from:

- incident response plan and management systems in place to prevent an incident
- warning signals in the event of an incident
- procedures to be followed in the event of an incident relating to evacuation and welfare operations
- appropriate people to contact and contact details
- post-incident management systems
- social objectives and contributions
- ecological issues and controls

Incident

An incident is an event which causes, or could have caused, injury or illness; damage to plant, material or the environment; disruption to production or public alarm.

An incident is an unintended event, or an unintended consequence of an intended event. This includes:

- fire and explosion
- loss of containment
- excursions above/below acceptable limits for emissions or plant conditions
- excursions above occupational hygiene or biological exposure limits
- non-compliance with regulatory requirements
- security breaches
- failure to follow procedures
- complaints
- vehicle incidents
- on/off-site incidents

Incident response

Incident response includes one or more of the following:

- deployment of site incident response personnel
- containing/controlling the incident at source and or its spread
- search and rescue operations
- engagement of external emergency services (such as fire, ambulance, rescue and military)
- liaison with other agencies (such as environmental, clean-up and

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specialised troubleshooters)
- evacuation
- hazard control

Incident response actions must:

- be in accordance with and relevant organisation procedures
- use appropriate response equipment where required
- prioritise the safety and/or successful recovery of personnel and others affected by the incident response
- **not** inhibit effectiveness of the incident response or further contribute to the incident

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

Cooperation and support

Establishing cooperation and support from the surrounding community can alleviate potential problems, including one or more of the following:

- expressions of community concern about a lack of communication with the organisation
- an atmosphere of mistrust existing between the community and the organisation
- constant referrals of organisational activities to local, state/territory or Commonwealth authorities
- the volume of requests for information received from community groups or individuals
- protest meetings or rallies by concerned residents

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Unit Mapping Information

Release 1. Supersedes and is equivalent to PMAOMIR424B Develop and maintain community relationships

Links

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Assessment Requirements for PMAOMIR424 Develop and maintain community relationships

Modification History

Release 1. Supersedes and is equivalent to PMAOMIR424B Develop and maintain community relationships

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 the ability to:

- identify and communicate and consult effectively with diverse stakeholders
- identify and plan for information to be communicated
- facilitate activities with diverse stakeholders
- write materials that convey desired messages in appropriate format and style for range of stakeholders
- identify measures and apply them to evaluation of activities.

Knowledge Evidence

Evidence must be provided that demonstrates knowledge of:

- organisation social and ecological objectives
- organisational procedures, including those covering:
  - incident, fire and accident
  - communication systems
  - emergency response plans
  - reporting and information storage
  - approvals and release of information
- community members and organisations who are likely to be stakeholders
- incident response plans and management systems
- promotional techniques and methods
- negotiation techniques
- group facilitation techniques
- group dynamics
- a range of presentation strategies and techniques.

Assessment Conditions

- The unit should be assessed holistically and the judgement of competence based on a holistic assessment of the evidence.

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- The collection of performance evidence is best done from a report and/or folio of evidence drawn from:
  - a single project which provides sufficient evidence of the requirements of all the elements and performance criteria
  - multiple smaller projects which together provide sufficient evidence of the requirements of all the elements and performance criteria.
- A third-party report, or similar, may be needed to testify to the work done by the individual, particularly when the project has been done as part of a project team.
- Assessment should use a real project in an operational workplace. Where this is not possible or practical, assessment must occur using 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.
- 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.
- Assessors must satisfy the assessor competency requirements that are in place at the time of the assessment as set by the VET regulator.
- In addition, the assessor or anyone acting in subject matter expert role in assessment must demonstrate both technical competency and currency. If the assessor cannot demonstrate technical competency and currency they must assess with a subject matter expert who does meet these requirements.
- Technical competence can be demonstrated through one or more of:
  - relevant VET or other qualification/Statement of Attainment
  - appropriate workplace experience undertaking the type of work being assessed under routine and non-routine conditions
  - appropriate workplace experience supervising/evaluating the type of work being assessed under routine and non-routine conditions
- Currency can be demonstrated through one or more of:
  - being currently employed undertaking the type of work being assessed
  - being employed by the organisation undertaking the type of work being assessed and having maintained currency in accordance with that organisation’s policies and procedures
  - having consulted/had contact with an organisation undertaking the type of work being assessed within the last twelve months, the consultation/contact being related to assessment
  - conducting on-the-job training/assessments of the type of work being assessed

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- being an active member of a relevant professional body and participating in activities relevant to the assessment of this type of work

Links

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PMAOMIR430 Conduct and assess incident exercises

Modification History

Release 1. Supersedes and is equivalent to PMAOMIR430B Conduct and assess incident exercises

Application

This unit of competency covers the skills and knowledge required to conduct and assess incident exercises.

This unit of competency applies to incident coordinators, managers, technical specialists or those in similar roles who are part of an incident response team. They may, but may not, have an ongoing role in managing the training and incident exercise system.

They will be required to plan and design exercises that approximate incident situations and responses and which meet identified objectives, manage and monitor scheduled and unscheduled exercises, provide feedback and debriefing, and evaluate the outcomes of incident exercises.

An incident is an event which causes, or could have caused, injury or illness; damage to plant, material or the environment; disruption to production or public alarm.

An incident is an unintended event, or an unintended consequence of an intended event, such as:

- fire and explosion
- loss of containment
- excursions above/below acceptable limits for emissions or plant conditions
- excursions above occupational hygiene or biological exposure limits
- non-compliance with regulatory requirements
- security breaches
- failure to follow procedures
- complaints
- vehicle incidents
- on/off-site incidents.

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

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Pre-requisite Unit

Nil

Competency Field

Incident readiness and response

Unit Sector

Elements and Performance Criteria

Elements describe the essential outcomes.		Performance criteria describe the performance needed to demonstrate achievement of the element.	
1	**Determine objectives**	1.1	Identify the need for the incident exercise in consultation with stakeholders
		1.2	Determine the objectives of the exercise which meet the identified need
2	**Design exercise**	2.1	Select the exercise style, consistent with the objectives, in consultation with stakeholders
		2.2	Design the exercise to ensure that objectives are met and address health, safety and environment (HSE) issues
		2.3	Identify and secure the resources to support the exercise
		2.4	Document the exercise plan and prepare running sheet
		2.5	Distribute the exercise plan and running sheet stating the objectives to appropriate personnel
3	**Manage exercise**	3.1	Brief personnel involved in the exercise in respect of aims, objectives, expectations and activity outcomes
		3.2	Use the exercise plan to initiate and facilitate the conduct and direction of the exercise
		3.3	Conduct the exercise in a manner that addresses HSE issues
		3.4	Monitor the progress of the exercise and provide

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			feedback to personnel
4	**Evaluate outcomes**	4.1	Plan a post-exercise debrief based on the conduct and outcomes of the exercise
		4.2	Conduct a debrief with activity personnel
		4.3	Review outcomes of the activities against objectives
		4.4	Prepare and distribute a report of the activity to stakeholders

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

All operations to which this unit applies are subject to stringent health, safety and environment (HSE) requirements, which may be imposed through state/territory or federal legislation, and these must not be compromised at any time. Where there is an apparent conflict between performance criteria and HSE requirements, the HSE requirements take precedence.

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Incident response

Incident response includes one or more of the following:

- deployment of site incident response personnel
- containing/controlling the incident at source and or its spread
- search and rescue operations
- engagement of external emergency services (such as fire, ambulance, rescue and military)
- liaison with other agencies (such as environmental, clean-up and specialised troubleshooters)
- evacuation
- hazard control

Incident response actions must:

- be in accordance with and relevant organisation procedures
- use appropriate response equipment, where required
- prioritise the safety and/or successful recovery of personnel and others affected by the incident response
- **not** inhibit effectiveness of the incident response or further contribute to the incident.

Incident exercises

Incident exercises include one or more of the following:

- scenario analyses
- case studies
- role plays
- discussion exercises/desktop exercises
- functional centre exercises (specific task environments within the workplace)
- field exercises
- synthetic training
- high level architecture

Incident exercises incorporate one or more of the following:

- multimedia
- computer-based
- virtual reality
- distributed interactive software
- other appropriate formats or technology
-

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Exercise design

Exercise design includes:

- determination of activity management structure
- development of documentation
- design of activity
- plans for:
  - issuing notifications
  - briefings and debriefings

Activity personnel

Activity personnel refers to people who assist in the conduct of the incident exercise and include one or more of the following:

- activity director
- directing staff/coordinators/facilitators
- safety officers
- assessors/umpires
- public relations staff
- casualty simulators
- role player liaison officers
- administrative/welfare personnel to support learning and assessment tools

Running sheet

A running sheet is a summary document/check list including one or more of the following:

- who is involved in the exercise
- who does what to whom and when
- evaluation information
- safety instructions
- timetable/schedule of events
- activity inputs

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

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- temporary instructions
- any similar instructions provided for the smooth running of the plant

Unit Mapping Information

Release 1. Supersedes and is equivalent to PMAOMIR430B Conduct and assess incident exercises

Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=9fc2cf53-e570-4e9f-ad6a-b228ffdb6875

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Assessment Requirements for PMAOMIR430 Conduct and assess incident exercises

Modification History

Release 1. Supersedes and is equivalent to PMAOMIR430B Conduct and assess incident exercises

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 the ability to:

- identify need and objectives for exercises
- plan, design and evaluate exercises that are based on, and are reasonable facsimiles of, industrial incidents and are relevant to the exercise objectives
- identify and address health, safety and environment (HSE) issues
- manage and monitor conduct of scheduled and unscheduled exercises
- evaluate exercise outcomes in terms of whether:
  - the exercise was carried out in accordance with expectations
  - there were unintended or inappropriate outcomes
  - incident response procedures failed/ were inappropriate
  - there were mismatches between equipment and incident requirements
  - feedback at the conclusion of the exercise was appropriate and adequate
  - an injury occurred during the conducting of the training exercise
  - improvements could/must be made
- provide briefings, debriefings and feedback.

Knowledge Evidence

Evidence must be provided that demonstrates knowledge of:

- organisational procedures, including those covering:
  - safety, hazards and hazard control
  - incident, fire and accident
  - environmental protection
  - risk assessment/risk management
  - relevant facility fire management and safety systems
  - communication systems
  - emergency response plans
- incident management concepts and principles
- problem solving and decision making techniques

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- assessment and review techniques
- project management principles.

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 is best done from a report and/or folio of evidence drawn from:
  - a single project which provides sufficient evidence of the requirements of all the elements and performance criteria
  - multiple smaller projects which together provide sufficient evidence of the requirements of all the elements and performance criteria.
- A third-party report, or similar, may be needed to testify to the work done by the individual, particularly when the project has been done as part of a project team.
- Assessment should use a real project in an operational workplace. Where this is not possible or practical, assessment must occur using 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.
- 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.
- Assessors must satisfy the assessor competency requirements that are in place at the time of the assessment as set by the VET regulator.
- In addition, the assessor or anyone acting in subject matter expert role in assessment must demonstrate both technical competency and currency. If the assessor cannot demonstrate technical competency and currency they must assess with a subject matter expert who does meet these requirements.
- Technical competence can be demonstrated through one or more of:
  - relevant VET or other qualification/Statement of Attainment
  - appropriate workplace experience undertaking the type of work being assessed under routine and non-routine conditions
  - appropriate workplace experience supervising/evaluating the type of work being assessed under routine and non-routine conditions
- Currency can be demonstrated through one or more of:
  - being currently employed undertaking the type of work being assessed

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- being employed by the organisation undertaking the type of work being assessed and having maintained currency in accordance with that organisation's policies and procedures
- having consulted/had contact with an organisation undertaking the type of work being assessed within the last twelve months, the consultation/contact being related to assessment
- conducting on-the-job training/assessments of the type of work being assessed
- being an active member of a relevant professional body and participating in activities relevant to the assessment of this type of work

Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=9fc2cf53-e570-4e9f-ad6a-b228ffdb6875

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PMAOMIR444 Develop incident containment tactics

Modification History

Release 1. Supersedes and is equivalent to PMAOMIR444B Develop incident containment tactics

Application

This unit of competency covers the skills and knowledge required to develop tactics to be used in the containment of incidents in on-shore and off-shore facilities.

An incident is an event which causes, or could have caused, injury or illness; damage to plant, material or the environment; disruption to production or public alarm.

An incident is an unintended event, or an unintended consequence of an intended event, such as:

- fire and explosion
- loss of containment
- excursions above/below acceptable limits for emissions or plant conditions
- excursions above occupational hygiene or biological exposure limits
- non-compliance with regulatory requirements
- security breaches
- failure to follow procedures
- complaints
- vehicle incidents
- on/off-site incidents.

This unit of competency applies to incident coordinators, managers, technical specialists or those in similar roles who are part of an incident response team. They may, but may not, have an ongoing role in managing the training and incident exercise system.

They will be required to assess the nature of the potential incident, identify objectives for incident containment, evaluate alternative tactics, analyse and interpret feedback and other information, recommend tactics appropriate to the context, and ensure that documentation and information is available to those who require it.

This unit of competency applies to an individual working alone or as part of an incident management team and working in liaison with other members of the incident management team and the incident manager, as appropriate.

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

Pre-requisite Unit

Nil

Competency Field

Incident readiness and response

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 incident containment tactics**	1.1	Identify risk characteristics of the possible incident scenarios
		1.2	Identify specific objectives of incident containment
		1.3	Identify existing tactics
		1.4	Develop a range of alternative tactics
2	**Evaluate tactics**	2.1	Predict incident behaviour and growth under alternative strategy scenarios
		2.2	Consider issues relating to health, safety and environment (HSE)
		2.3	Identify and secure resource requirements for alternative tactics
		2.4	Identify the impact of tactics on a range of factors
		2.5	Identify and clearly document tactics
		2.6	Obtain, collate and record feedback on tactics from stakeholders and incident managers, and ensure this is reflected in the documentation according to procedures

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		2.7	Negotiate stakeholder needs and address
3	**Select tactics**	3.1	Document findings and feedback on the suitability of different tactics
		3.2	Recommend preferred tactics according to procedures
		3.3	Document tactics and build into strategies and training guidelines
4	**Adopt strategies**	4.1	Incorporate documentation on selected tactics into the appropriate incident management manuals
		4.2	Notify stakeholders of new tactics
		4.3	Incorporate selected tactics into incident training exercises

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

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All operations to which this unit applies are subject to stringent health, safety and environment (HSE) requirements, which may be imposed through state/territory or federal legislation, and these must not be compromised at any time. Where there is an apparent conflict between performance criteria and HSE requirements, the HSE requirements take precedence.

Incident response

Incident response includes one or more of the following:

- deployment of site incident response personnel
- containing/controlling the incident at source and or its spread
- search and rescue operations
- engagement of external emergency services (such as fire, ambulance, rescue and military)
- liaison with other agencies (such as environmental, clean-up and specialised troubleshooters)
- evacuation
- hazard control

Incident response actions must:

- be in accordance with and relevant organisation procedures
- use appropriate response equipment, where required
- prioritise the safety and/or successful recovery of personnel and others affected by the incident response
- **not** inhibit effectiveness of the incident response or further contribute to the incident

Alternative tactics

Alternative tactics are identified through one or both of the following:

- consultation with experts
- literature review

Evaluate tactics

Evaluation of tactics requires consideration of:

- specific incident conditions
- insurance policies and considerations
- economic impact and considerations
- availability, capabilities and operational limitations of external resources and agencies

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Preferred tactics

Preferred tactics meet one or more of the following:

- tactics achieve the desired outcomes
- tactic development is of greater value than expected
- adoption of tactics finds widespread approval
- incident containment is a success

Stakeholders

Stakeholders include any or all of the following:

- experts/specialists
- shareholders
- board of directors
- employees
- unions
- contractors
- suppliers
- insurance companies
- local community
- fire brigade
- police
- local emergency management organisations
- medical services
- relevant public authority

Hazards

Hazards include one or more of the following:

- heat, smoke, dust, darkness 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
- plant services (steam, condensate and cooling water)
- limited head spaces or overhangs
- working at heights, in restricted or confined spaces, or in environments subjected to heat, noise, dusts or vapours
- flammability and explosivity
- hazardous products and materials

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- unauthorised personnel
- sharp edges, protrusions or obstructions
- slippery surfaces, spills or leaks
- extreme weather
- other hazards that might arise

Identifying risks requires consideration of specific hazards, and:

- what level of harm can occur
- how harm can occur (various chains of events that could result in harm from the hazard)
- the likelihood that harm will occur

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

Unit Mapping Information

Release 1. Supersedes and is equivalent to PMAOMIR444B Develop incident containment tactics

Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=9fc2cf53-e570-4e9f-ad6a-b228ffdb6875

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Assessment Requirements for PMAOMIR444 Develop incident containment tactics

Modification History

Release 1. Supersedes and is equivalent to PMAOMIR444B Develop incident containment tactics

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 the ability to:

- collect and analyse information to evaluate and recommend containment tactics appropriate to specific context
- identify and control hazards and risks
- communicate effectively with team members, management and other stakeholders
- write clear and unambiguous procedures and training documents to support tactics.

Knowledge Evidence

Evidence must be provided that demonstrates knowledge of:

- organisational procedures, including those covering:
  - safety, hazards and hazard control
  - incident, fire and accident
  - environmental protection
  - risk assessment/risk management
  - relevant facility fire management and safety systems
  - communication systems
  - emergency response plans
- types of incidents that can arise in the work environment
- related risks and potential impact on environment, local community and economy of the organisation
- types of incident response and containment equipment and their application
- rescue techniques
- incident prediction
- intervention and control techniques for heating, fires and explosions
- incident resources and how to access them
- incident response and disaster planning processes and techniques
- hazard identification and control
- risk management principles and techniques
- structure, roles, capabilities and operational limitations of external resources and agencies

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- insurance policies and considerations
- economic impact and considerations.

Assessment Conditions

- Competency must be achieved before performing this work unsupervised. Therefore this unit will typically be assessed off the job. Where assessment is undertaken on the job, appropriate supervision and safety precautions must be provided.
- 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 provide evidence of the ability to perform over the range of situations which might be expected to be encountered, including typical disruptions to normal, smooth work conditions
  - must include development of tactics associated with a simulated incident, 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.
- Off-the-job assessment must sufficiently reflect 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.
- Assessment in a simulated environment should use evidence collected from one or more of:
  - walk-throughs
  - 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.
- Assessors must satisfy the assessor competency requirements that are in place at the time of the assessment as set by the VET regulator.
- In addition, the assessor or anyone acting in subject matter expert role in assessment must demonstrate both technical competency and currency. If the assessor cannot demonstrate technical competency and currency they must assess with a subject matter expert who does meet these requirements.
- Technical competence can be demonstrated through one or more of:

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  - relevant VET or other qualification/Statement of Attainment
  - appropriate workplace experience undertaking the type of work being assessed under routine and non-routine conditions
  - appropriate workplace experience supervising/evaluating the type of work being assessed under routine and non-routine conditions
- Currency can be demonstrated through one or more of:
  - being currently employed undertaking the type of work being assessed
  - being employed by the organisation undertaking the type of work being assessed and having maintained currency in accordance with that organisation's policies and procedures
  - having consulted/had contact with an organisation undertaking the type of work being assessed within the last twelve months, the consultation/contact being related to assessment
  - conducting on-the-job training/assessments of the type of work being assessed
  - being an active member of a relevant professional body and participating in activities relevant to the assessment of this type of work

Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=9fc2cf53-e570-4e9f-ad6a-b228ffdb6875

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PMAOMIR449 Monitor legal compliance obligations during incidents

Modification History

Release 1. Supersedes and is equivalent to PMAOMIR449B Monitor legal compliance obligations during incidents

Application

This unit of competency covers the skills and knowledge required to oversee the operations of an incident management or crisis management team to ensure compliance with legislation and/or regulations.

An incident is an event which causes, or could have caused, injury or illness; damage to plant, material or the environment; disruption to production or public alarm.

An incident is an unintended event, or an unintended consequence of an intended event, such as:

- fire and explosion
- loss of containment
- excursions above/below acceptable limits for emissions or plant conditions
- excursions above occupational hygiene or biological exposure limits
- non-compliance with regulatory requirements
- security breaches
- failure to follow procedures
- complaints
- vehicle incidents
- on/off-site incidents.

This unit of competency applies to enterprise legal officers, environmental officers, safety officers or those in similar roles who are required to advise the management team on potential and actual breaches of legislation in the development of incident response plans, implement and evaluate incident response activities, submit organisational reports and prepare for legal proceedings on compliance issues.

This unit of competency applies to an individual working alone or as part of an incident management team and working in liaison with other members of the incident management team and the incident manager, as appropriate.

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

Pre-requisite Unit

Nil

Competency Field

Incident readiness and response

Unit Sector

Elements and Performance Criteria

Elements describe the essential outcomes.		Performance criteria describe the performance needed to demonstrate achievement of the element.	
1	**Conduct routine review of incident response plans**	1.1	Identify legislation, regulation and licencing relevant to possible incident scenarios
		1.2	Determine possible compliance issues with planned responses
		1.3	Negotiate alternative response plans which do not raise compliance issues
		1.4	Ensure plans, equipment and training are modified to reflect changed response plans
2	**Oversee the operations of the incident management team during the incident**	2.1	Ensure that the incident team is aware of legislation that needs to be complied with during the incident
		2.2	Obtain information concerning legal ramifications as required in accordance with organisation's policies
		2.3	Ensure accurate recording of all relevant details of all agreed actions
		2.4	Assess actions taken and proposed against relevant legislation to determine compliance and possible impacts on the company

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3	**Advise appropriate action to facilitate compliance during the incident**	3.1	Undertake consultations with regulatory authorities to facilitate minimal impact resolutions
		3.2	Advise management of options that are available to remain compliant
		3.3	Provide advice on actions to achieve compliance
4	**Monitor actions taken to achieve compliance during the incident**	4.1	Monitor company actions to resolve incidents and achieve compliance or remain compliant
		4.2	Document actions taken by the organisation to remain compliant
		4.3	Prepare reports for management regarding outcomes from the incident and any material breaches of legislation that have occurred
		4.4	Prepare for possible legal proceedings within required timeframe
5	**Seek improvements to incident responses post incident**	5.1	Identify possible areas for improvement
		5.2	Develop improved responses in liaison with relevant people
		5.3	Ensure plans, equipment and training are modified to reflect improved response plans

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

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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

All operations to which this unit applies are subject to stringent health, safety and environment (HSE) requirements, which may be imposed through state/territory or federal legislation, and these must not be compromised at any time. Where there is an apparent conflict between performance criteria and HSE requirements, the HSE requirements take precedence.

Duty of care responsibilities under general work health and safety (WHS) Acts and regulations, and state/territory and national standards applying to hazardous substances, dangerous goods and major hazards must be met.

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

Incident response

Incident response includes one or more of the following:

- deployment of site incident response personnel
- containing/controlling the incident at source and or its spread
- search and rescue operations

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- engagement of external emergency services (such as fire, ambulance, rescue and military)
- liaison with other agencies (such as environmental, clean-up and specialised troubleshooters)
- evacuation
- hazard control

Incident response actions must:

- be in accordance with and relevant organisation procedures
- use appropriate response equipment, where required
- prioritise the safety and/or successful recovery of personnel and others affected by the incident response
- **not** inhibit effectiveness of the incident response or further contribute to the incident.

Legal compliance

Legal compliance during an incident involves monitoring all of:

- liquid leaving site (e.g. fire water, product and materials)
- smoke and vapour leaving site (e.g. from loss of containment (LOC) and fire)
- gas leaving site (e.g. from LOC)
- noise leaving site (e.g. from incident or incident response and alarms)

Identifying areas for improvement

Identifying areas for improvement includes addressing one or more of the following:

- difficulties tracking and identifying relevant legislation or amendments
- managing evidence for later investigations or enquiries
- interpersonal conflicts
- conflicts of interest
- failed compliance measures
- failure to comply with timeframes dictated by legislation or regulation

Unit Mapping Information

Release 1. Supersedes and is equivalent to PMAOMIR449B Monitor legal compliance obligations during incidents

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Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=9fc2cf53-e570-4e9f-ad6a-b228ffdb6875

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Assessment Requirements for PMAOMIR449 Monitor legal compliance obligations during incidents

Modification History

Release 1. Supersedes and is equivalent to PMAOMIR449B Monitor legal compliance obligations during incidents

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 the ability to:

- identify potential compliance issues in incident response plans and compliance breaches in activities
- communicate effectively with team members, management and other stakeholders about compliance requirements, issues and solutions
- identify and provide advice on options for resolution of compliance issues and breaches
- document solutions and improvements to be implemented in training and procedures
- complete workplace documentation, write reports and prepare documentation for legal proceedings.

Knowledge Evidence

Evidence must be provided that demonstrates knowledge of:

- regulatory framework and specific compliance requirements that apply to the organisation
- allowable defences for apparent compliance breaches
- types of incidents that can arise in the work environment, typical responses and potential compliance issues
- organisational procedures, including those covering:
  - safety, hazards and hazard control
  - incident, fire and accident
  - environmental protection
  - risk assessment/risk management
  - relevant facility fire management and safety systems
  - communication systems
  - emergency response plans
  - release of information to external bodies
- constraints to negotiations that arise from organisation policies, procedures and corporate structures.

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Assessment Conditions

- The unit should be assessed holistically and the judgement of competence based on a holistic assessment of the evidence.
- Element 1 is best assessed using a report and/or folio of evidence drawn from a single project which provides sufficient evidence of the requirements of all the performance criteria.
- The balance of the unit needs to be assessed off the job, and will occur as part of the response to a simulated incident.
- The collection of performance evidence:
  - should provide evidence of the ability to perform over the range of situations which might be expected to be encountered, including typical disruptions to normal, smooth work conditions
  - will typically include the use of appropriate tools, equipment and safety gear requiring demonstration of preparation, operation, completion and responding to problems.
- Off-the-job assessment must sufficiently reflect 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.
- Assessment in a simulated environment should use evidence collected from one or more of:
  - demonstration of skills
  - industry-based case studies/scenarios
  - ‘what ifs’.
- A third-party report, or similar, may be needed to testify to the work done by the individual, particularly when the project has been done as part of a project team.
- Knowledge evidence may be collected concurrently with performance evidence interviews (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.
- Assessors must satisfy the assessor competency requirements that are in place at the time of the assessment as set by the VET regulator.
- In addition, the assessor or anyone acting in subject matter expert role in assessment must demonstrate both technical competency and currency. If the assessor cannot demonstrate technical competency and currency they must assess with a subject matter expert who does meet these requirements.
- Technical competence can be demonstrated through one or more of:
  - relevant VET or other qualification/Statement of Attainment
  - appropriate workplace experience undertaking the type of work being assessed under routine and non-routine conditions

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  - appropriate workplace experience supervising/evaluating the type of work being assessed under routine and non-routine conditions
- Currency can be demonstrated through one or more of:
  - being currently employed undertaking the type of work being assessed
  - being employed by the organisation undertaking the type of work being assessed and having maintained currency in accordance with that organisation's policies and procedures
  - having consulted/had contact with an organisation undertaking the type of work being assessed within the last twelve months, the consultation/contact being related to assessment
  - conducting on-the-job training/assessments of the type of work being assessed
  - being an active member of a relevant professional body and participating in activities relevant to the assessment of this type of work

Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=9fc2cf53-e570-4e9f-ad6a-b228ffdb6875

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PMAOPS101 Read dials and indicators

Modification History

Release 1. Supersedes and is equivalent to PMAOPS101C Read dials and indicators

Application

This unit of competency covers the skills and knowledge required to make readings and/or take measurements using common types of plant instrumentation.

This unit of competency applies to operators who are required to identify the units and scales to use, perform the measurements and record the results in prescribed format, level of detail and according to procedures.

This unit of competency applies to reading process instrumentation in any plant or related situation. Readings may need to be made at heights, in wet or restricted conditions, or close to hot or moving equipment and across sites and plants.

In a typical scenario an operator patrols the plant taking a range of readings to complete logs and check on the operation of the plant. The operator needs to interpret the display on the instrument and record the appropriate reading. As part of this process, they will need to check that the instrument is within calibration (where appropriate) and make a judgement as to whether the reading is 'reasonable' or whether some action needs to be taken.

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

Pre-requisite Unit

Nil

Competency Field

Operations

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Unit Sector

Elements and Performance Criteria

Elements describe the essential outcomes.		Performance criteria describe the performance needed to demonstrate achievement of the element.	
1	**Contribute to controlling hazards in work area**	1.1	Identify hazards in work area
		1.2	Take appropriate action to control risks according to procedures
2	**Identify appropriate measuring device readings**	2.1	Confirm the calibration of the measuring device, where appropriate
		2.2	Select appropriate units on the measuring device
		2.3	Select appropriate scales on the measuring device
3	**Perform measurements**	3.1	Identify the range of results that could be obtained
		3.2	Identify and take account of relevant external factors
		3.3	Perform measurements using appropriate techniques
		3.4	Identify measurements outside the range of expected results
		3.5	Take action on measurements outside expected range according to procedures
4	**Record results**	4.1	Record readings accurately in the appropriate format
		4.2	Record the results to the appropriate level of detail

Foundation Skills

This section describes those language, literacy, numeracy and employment skills that are essential to performance.

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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

Hazards

Hazards include one or more of the following:

- smoke, darkness and heat
- 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
- plant services (steam, condensate and cooling water)
- limited head spaces or overhangs
- working at heights, in restricted or confined spaces, or in environments subjected to heat, dusts, smoke, vapours or other atmospheric hazards
- 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

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Dials and indicators

Dials and indicators include one or more of the following:

- analogue dials, such as:
- pressure gauge
- rev counter
- temperature dial
- digital readouts, such as:
- pH meter
- temperature probe
- ammeter
- flow meter
- weigh scales

Calibration checks

Calibration checks include one or more of the following:

- checking the date that the next calibration is required (e.g. weigh scale and pressure gauge)
- using a calibration button on the instrument (e.g. zero button on an ammeter and calibration button on an electronic meter)

Problems

Problems must be reported and corrective action taken according to relevant procedures.

Problems include one or more of the following:

- measuring instrument not fit for use (e.g. not within calibration)
- appropriate measuring device not available
- deviations from normal range of readings
- effect of temperature on material properties

Corrective actions include one or more of the following:

- reporting to an appropriate person
- taking action specified in the procedure

Appropriate personnel

Appropriate personnel include one or more of the following:

- supervisor
- more senior operator
- other designated personnel

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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

Unit Mapping Information

Release 1. Supersedes and is equivalent to PMAOPS101C Read dials and indicators

Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=9fc2cf53-e570-4e9f-ad6a-b228ffdb6875

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Assessment Requirements for PMAOPS101 Read dials and indicators

Modification History

Release 1. Supersedes and is equivalent to PMAOPS101C Read dials and indicators

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 the ability to:

- accurately perform and record measurements according to procedures
- recognise readings which are out of range or unusual and take action according to procedures
- identify hazard and control risks
- check accuracy of own work and complete workplace forms.

Knowledge Evidence

Evidence must be provided that demonstrates knowledge of:

- basic units of measurement and where they apply
- types and application of measuring devices typically used in the job/work environment and problems that can arise
- graphs and scales relevant to the readings being taken
- organisation procedures relevant to the readings being taken
- hazards that may arise in the job/work environment, and:
  - their possible causes
  - potential consequences
  - relevant controls.

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 operation of an operating plant
  - will typically include a supervisor/third-party report or other evidence, 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

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  - must include the use of an appropriate industrial item of equipment
  - may use industry-based simulation for all or part of the unit 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.
- Assessors must satisfy the assessor competency requirements that are in place at the time of the assessment as set by the VET regulator.
- In addition, the assessor or anyone acting in subject matter expert role in assessment must demonstrate both technical competency and currency. If the assessor cannot demonstrate technical competency and currency they must assess with a subject matter expert who does meet these requirements.
- Technical competence can be demonstrated through one or more of:
  - relevant VET or other qualification/Statement of Attainment
  - appropriate workplace experience undertaking the type of work being assessed under routine and non-routine conditions
  - appropriate workplace experience supervising/evaluating the type of work being assessed under routine and non-routine conditions
- Currency can be demonstrated through one or more of:
  - being currently employed undertaking the type of work being assessed

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- being employed by the organisation undertaking the type of work being assessed and having maintained currency in accordance with that organisation's policies and procedures
- having consulted/had contact with an organisation undertaking the type of work being assessed within the last twelve months, the consultation/contact being related to assessment
- conducting on-the-job training/assessments of the type of work being assessed
- being an active member of a relevant professional body and participating in activities relevant to the assessment of this type of work

Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=9fc2cf53-e570-4e9f-ad6a-b228ffdb6875

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PMAOPS105 Select and prepare materials

Modification History

Release 1. Supersedes and is equivalent to PMAOPS105C Select and prepare materials

Application

This unit of competency covers the skills and knowledge required to select and prepare materials for use in production processes.

This unit of competency applies to operators who are required to find the right materials, check them, measure and prepare them, if required, and deliver the materials to the process in the right condition.

A typical application of this unit of competency could be an operator preparing a range of chemicals or other substances for use in a batch process. The operator would visually inspect each item for deterioration or damage, and follow procedures to prepare materials. Once prepared, the operator would then assemble the materials for supply to production areas.

This competency applies where mixing, grinding, testing, etc are an incidental part of preparing materials for use in production.

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.

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1	**Identify and locate materials**	1.1	Identify material requirements correctly from documentation
		1.2	Identify type, quantity and quality of materials
		1.3	Identify material hazards and handling procedures
		1.4	Locate and check materials to procedures
		1.5	Confirm availability of required quantity of materials
		1.6	Note and report material shortages
2	**Contribute to controlling hazards**	2.1	Identify other hazards in work area
		2.2	Take action to control material hazards as per documentation
		2.3	Take appropriate action to control other hazards in the workplace
3	**Measure quantity of materials**	3.1	Identify measuring requirements and select appropriate measuring equipment
		3.2	Measure and assemble required quantities
		3.3	Check material quantities required
		3.4	Complete required documentation and labelling
		3.5	Deliver materials to correct location
4	**Prepare materials as required**	4.1	Check that hoppers, bins and holding tanks are free from contamination
		4.2	Identify classes of compatible and incompatible chemicals
		4.3	Prepare materials to procedures
5	**Store assembled materials**	5.1	Identify the storage conditions required for the main classes of chemicals

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		5.2	Identify materials that have special storage requirements
		5.3	Store and supply materials
6	**Dispose of waste materials**	6.1	Correctly identify waste materials
		6.2	Dispose of materials to procedures and work health and safety (WHS) and environmental requirements

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

Materials preparation

Materials preparation includes one or more of the following:

- pre-production measuring, assembling and identification of materials
- warming to melt waxy or other materials
- breaking up solid materials into pieces or smaller lumps
- passing materials through an in-line delumper

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- blending a powder or liquid into a solution prior to use in the process
- blending powders prior to production
- dilution of solutions
- preparation of a solution for dosing into a process

Materials

Materials include one or more of the following:

- raw materials
- packaging materials
- consumables

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

Equipment

Equipment includes one or more of the following:

- buckets
- stirring paddle
- propeller or drum mixers
- delumpers
- hammers or axes
- measuring equipment, including scales, flow meters and graduated vessels
- hard hats
- goggles/glasses/face shields
- hearing protection (ear muffs and plugs)
- dusk masks/canister masks/self contained breathing apparatus (SCBA)/long range breathers
- gloves/gauntlets

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- safety boots
- antistatic equipment
- overalls/aprons/acid jackets/pants
- handling aids
- other safety equipment

Material hazards and handling procedures

Material hazards and handling procedures include one or more of the following:

- labels
- safety data sheets (SDS)
- verbal direction from supervisor or other person
- other standard sources, such as:
  - enterprise procedures
  - HAZCHEM symbols and codes
  - spill containment and disposal procedures

Hazards

Hazards include one or more of the following:

- smoke, darkness and heat
- 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
- plant services (steam, condensate and cooling water)
- limited head spaces or overhangs
- working at heights, in restricted or confined spaces, or in environments subjected to heat, noise, dusts or vapours or other atmospheric hazards
- 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

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Unit Mapping Information

Release 1. Supersedes and is equivalent to PMAOPS105C Select and prepare materials

Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=9fc2cf53-e570-4e9f-ad6a-b228ffdb6875

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Assessment Requirements for PMAOPS105 Select and prepare materials

Modification History

Release 1. Supersedes and is equivalent to PMAOPS105C Select and prepare 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, and include the ability to:

- identify job requirements and safe work procedures
- identify and operate equipment
- identify hazards and apply hazard control procedures
- complete required workplace forms
- communicate with team and supervisors
- measure and prepare materials to meet requirements
- identify and dispose of waste materials according to work health and safety (WHS) and environmental requirements.

Knowledge Evidence

Evidence must be provided that demonstrates knowledge of:

- types and application of measuring equipment relevant to job/work environment
- classes of compatible and incompatible chemicals and implications in job/work environment
- types of materials in plant and their storage requirements
- routes of entry of chemicals to the body (basic only)
- procedures for safe handling and storage of chemicals and hazardous substances relevant to job/work environment
- types and application of personal protective equipment (PPE) relevant to job/work environment
- labelling requirements (dangerous goods codes, classification numbers and packaging group numbers)
- HAZCHEM symbols and codes relevant to the job/work environment
- organisation procedures relevant to job/work environment
- hazards that may arise in the job/work environment, and:
  - their possible causes
  - potential consequences
  - appropriate risk controls
- environmental requirements related to waste disposal.

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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 operation of an operating plant
  - will typically include a supervisor/third-party report or other evidence, 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 an appropriate industrial item of equipment
  - 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 demonstration of skills and one or more of:
  - walk-throughs
  - pilot plant operation
  - 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.
- Assessors must satisfy the assessor competency requirements that are in place at the time of the assessment as set by the VET regulator.
- In addition, the assessor or anyone acting in subject matter expert role in assessment must demonstrate both technical competency and currency. If the assessor cannot demonstrate technical competency and currency they must assess with a subject matter expert who does meet these requirements.

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- Technical competence can be demonstrated through one or more of:
  - relevant VET or other qualification/Statement of Attainment
  - appropriate workplace experience undertaking the type of work being assessed under routine and non-routine conditions
  - appropriate workplace experience supervising/evaluating the type of work being assessed under routine and non-routine conditions
- Currency can be demonstrated through one or more of:
  - being currently employed undertaking the type of work being assessed
  - being employed by the organisation undertaking the type of work being assessed and having maintained currency in accordance with that organisation's policies and procedures
  - having consulted/had contact with an organisation undertaking the type of work being assessed within the last twelve months, the consultation/contact being related to assessment
  - conducting on-the-job training/assessments of the type of work being assessed
  - being an active member of a relevant professional body and participating in activities relevant to the assessment of this type of work

Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=9fc2cf53-e570-4e9f-ad6a-b228ffdb6875

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PMAOPS280 Interpret process plant schematics

Modification History

Release 1. Supersedes and is equivalent to PMAOPS280B Interpret process plant schematics

Application

This unit of competency covers the skills and knowledge required to interpret process plant schematics for a range of operations uses.

This unit of competency applies to operators who are required to find specific information from a schematic, mark up a schematic for their own or someone else’s use, and sketch a schematic using relevant symbols as part of an explanation to another person or as an aide memoir for themselves.

This unit of competency applies to a wide range of schematics and covers all general and common symbols. It also includes those specific to the plant which is the operator's area of responsibility and any conventions which are applied by the organisation.

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	**Relate schematic to plant**	1.1	Match items on schematic with items in plant
		1.2	Determine relevant pipe and flange schedules

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		1.3	Identify sizes and types of minor equipment
		1.4	Locate relevant instrument tapping points and control points
		1.5	Identify direction of flow on schematic and in plant
2	**Identify points required to prepare plant**	2.1	Locate isolation and blanking points for any item of the relevant schematic
		2.2	Identify drain/vent/purge points for any item on the relevant schematic
		2.3	Identify trip system elements
		2.4	Use schematic to check/develop work lists
3	**Describe the process with a schematic**	3.1	Use a schematic as the basis of a description of the process
		3.2	Describe the process using a manual schematic
		3.3	Walk through process identifying all plant items in process order
		3.4	Identify key conditions/variables from a relevant schematic

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.

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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

All operations to which this unit applies are subject to stringent health, safety and environment (HSE) requirements, which may be imposed through state/territory or federal legislation, and these must not be compromised at any time. Where there is an apparent conflict between performance criteria and HSE requirements, the HSE requirements take precedence.

Items

Items on schematic/in plant include the following:

- all major plant items, such as:
  - vessels
  - columns
  - reactors
  - heat exchangers
- minor plant items, such as:
  - pumps
  - valves
  - strainers
  - filters
  - instrumentation (local and remote)

Schematics

Schematics are formally drawn, authorised diagrams and are hard copy or electronic.

Schematics have various names, including:

- piping and instrumentation diagram (P&ID)
- process flow diagram (PFD)
- process engineering flow (PEF)
- cause and effect diagrams/matrix

Manual schematic includes one or more of the following:

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- a hand drawn sketch of the part of the process of interest
- a mark up of a formally drawn schematic

Symbols

Symbols and conventions used in the schematics for the relevant plant area should be used, and include of one or more of the following:

- Australian Standards symbols
- the organisation's standard symbols
- some other standard system

Points required to prepare plant

Points required to prepare plant include three or more of the following:

- isolations
- blank/spade/spectacle blind, breakout spool locations
- draining
- purging
- blanketing
- venting
- ventilating
- locating plant, equipment and services - above ground
- locating below ground (or otherwise obscured) pipeline and services

Key conditions/ variables

Key conditions/variables include one or more of the following:

- normal range of process conditions, such as:
  - level
  - pressure
  - flow
  - temperature
- alarm conditions/values
- trip and emergency shutdown (ESD) values

Unit Mapping Information

Release 1. Supersedes and is equivalent to PMAOPS280B Interpret process plant schematics

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Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=9fc2cf53-e570-4e9f-ad6a-b228ffdb6875

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Assessment Requirements for PMAOPS280 Interpret process plant schematics

Modification History

Release 1. Supersedes and is equivalent to PMAOPS280B Interpret process plant schematics

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 the ability to:

- interpret symbols and other drawing elements and explain their relationship to the plant and process
- identify critical processes and plant items from a schematic
- draw or mark up a schematic and use it to describe main process features and plant items.

Knowledge Evidence

Evidence must be provided that demonstrates knowledge of:

- standard/common symbols used on schematics
- schematic conventions (e.g. with particular reference to crossing and branching lines)
- symbols and conventions used by the organisation, if different from common usage
- indications of equipment/pipe specifications
- indications of process conditions/limits.

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 is best done from a report and/or folio of evidence drawn from:
  - a single project which provides sufficient evidence of the requirements of all the elements and performance criteria
  - multiple smaller projects which together provide sufficient evidence of the requirements of all the elements and performance criteria.
- A third-party report, or similar, may be needed to testify to the work done by the individual, particularly when the project has been done as part of a project team.
- Assessment should occur in operational workplace situations. Where this is not possible or practical, 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.

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- 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.
- Assessors must satisfy the assessor competency requirements that are in place at the time of the assessment as set by the VET regulator.
- In addition, the assessor or anyone acting in subject matter expert role in assessment must demonstrate both technical competency and currency. If the assessor cannot demonstrate technical competency and currency they must assess with a subject matter expert who does meet these requirements.
- Technical competence can be demonstrated through one or more of:
  - relevant VET or other qualification/Statement of Attainment
  - appropriate workplace experience undertaking the type of work being assessed under routine and non-routine conditions
  - appropriate workplace experience supervising/evaluating the type of work being assessed under routine and non-routine conditions
- Currency can be demonstrated through one or more of:
  - being currently employed undertaking the type of work being assessed
  - being employed by the organisation undertaking the type of work being assessed and having maintained currency in accordance with that organisation’s policies and procedures
  - having consulted/had contact with an organisation undertaking the type of work being assessed within the last twelve months, the consultation/contact being related to assessment
  - conducting on-the-job training/assessments of the type of work being assessed
  - being an active member of a relevant professional body and participating in activities relevant to the assessment of this type of work.

Links

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PMAOPS301 Operate a distillation unit

Modification History

Release 1. Supersedes and is equivalent to PMAOPS301B Produce product by distillation

Application

This unit of competency covers the skills and knowledge required to monitor and control a distillation unit, which is separating two or more components, to achieve finished product that meets a predetermined specification.

The distillation column may be trayed or packed and may be performing cryogenic gas distillation, liquid distillation, azeotropic distillation, fractional distillation, vacuum distillation or molten metal distillation.

This unit of competency applies to operations technicians who are required to identify and correct operational problems, determine the impact of composition changes and adjust accordingly, and direct members of the operational team under start-up and running conditions.

In a typical scenario an operations technician would be monitoring and controlling the distillation section of a plant from a central control room. The process may involve one or more distillation columns and their associated equipment, piping and controls.

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 does not require the operation of a central control panel.

Operators undertaking this unit of competency should also be competent in operating fluid flow equipment and heat exchangers.

Competency in this unit requires the ability to integrate the operation of all the component parts as a whole.

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

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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	**Prepare for work**	1.1	Receive and give shift handover
		1.2	Identify work requirements
		1.3	Identify and control hazards
		1.4	Coordinate with appropriate personnel
		1.5	Check for recent work undertaken on the distillation unit
		1.6	Note any outstanding/incomplete work
		1.7	Check operational status of distillation unit and its component units
2	**Operate distillation unit**	2.1	Describe the type of distillation unit, the component plant items and their duties
		2.2	Complete routine checks, logs and paperwork taking appropriate action on unexpected readings
		2.3	Change rate, grade or specification smoothly as required
		2.4	Adjust distillation unit and its component plant items as appropriate to their type and duty to maximise performance
3	**Diagnose and take appropriate**	3.1	Monitor distillation unit and its component plant items frequently and critically throughout shift using

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	action on abnormal situations		measured/indicated data and senses as appropriate
		3.2	Describe impacts of any changes upstream and downstream
		3.3	Recognise actual and developing situations which may require action
		3.4	Apply operational knowledge to resolve problems
		3.5	Take other appropriate actions on abnormal situations which cannot be resolved during the shift to ensure safety and the resolution of the situation
		3.6	Follow through items initiated until final resolution has occurred
4	**Isolate and de-isolate distillation unit and its component plant items**	4.1	Complete any required pre-start checks
		4.2	Start up/shut down distillation unit according to its type and duty in liaison with other personnel
		4.3	Start up/shut down/changeover component plant items within unit according to their type and duty in liaison with other personnel
		4.4	Isolate entire distillation unit and/or any component plant item
		4.5	Make safe for required work
		4.6	Check distillation unit /plant item is ready to be returned to service
		4.7	De-isolate and prepare distillation unit /plant item for return to service

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.

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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 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

All operations to which this unit applies are subject to stringent health, safety and environment (HSE) requirements, which may be imposed through state/territory or federal legislation, and these must not be compromised at any time. Where there is an apparent conflict between performance criteria and HSE requirements, the HSE requirements take precedence.

Hazards

Hazards include one or more of the following:

- 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
- plant services (steam, condensate and cooling water)
- working at heights, in restricted or confined spaces, or in environments subjected to heat, noise, dusts or vapours
- flammability and explosivity
- hazardous products and materials
- unauthorised personnel
- sharp edges, protrusions or obstructions
- slippery surfaces, spills or leaks

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- extreme weather
- other hazards that might arise

Non-routine problems

Non-routine problems must be resolved by applying operational knowledge to develop new solutions, either individually or in collaboration with relevant experts, to:

- determine problems needing action
- determine possible fault causes
- develop solutions to problems which do not have a known solution
- follow through items initiated until final resolution has occurred
- report problems outside area of responsibility to designated person

Non-routine problems are unexpected problems, or variations of previous problems and include one or more of the following:

- recognising and acting on unstable/sub-optimal operation, such as:
  - flooding
  - channelling (packed column)
  - dumping
  - entrainment
- control of critical variables and outputs
- variations in feed rates and/or quality

Operational knowledge includes one or more of the following:

- procedures
- training
- technical information, such as journals and engineering specifications
- remembered experience
- relevant knowledge obtained from appropriate people

Appropriate actions on abnormal situations

Appropriate actions on abnormal situations includes the following:

- determining problems needing action
- determining possible fault causes
- rectifying problem using appropriate solution within area of responsibility
- following through items initiated until final resolution has occurred
- reporting problems outside area of responsibility to designated person

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Operate

Operate is to monitor, adjust/make change to the production unit and/or its component items to meet specifications, by one or more of the following:

- manually in the plant
- using local controller in the plant.

Product

Product includes anything produced by a process step and so includes:

- intermediate products, such as the product from one process step, which then becomes the feed for another

Distillation unit

This unit of competency includes all such items of equipment and unit operations which form part of the distillation system. A unit comprises two or more components of plant/equipment that are operated together to produce product, including as appropriate to the facility:

- columns/towers
- trays/packing
- boilers/reboilers
- condensers
- refrigerant compressors
- pumps
- valves

Unit Mapping Information

Release 1. Supersedes and is equivalent to PMAOPS301B Produce product by distillation

Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=9fc2cf53-e570-4e9f-ad6a-b228ffdb6875

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Assessment Requirements for PMAOPS301 Operate a distillation unit

Modification History

Release 1. Supersedes and is equivalent to PMAOPS301B Produce product by distillation

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 the ability to:

- start up, and stabilise the components of the distillation system to meet specifications
- apply process knowledge to monitor and predict the need for adjustments to system components
- predict impact of a change in one unit/area on other plant units/areas and take appropriate action
- identify hazards and risks and apply risk control procedures
- communicate effectively with team, group, supervisors and other personnel
- identify early warning signs of equipment/processes needing attention or with potential problems
- isolate the causes of problems and distinguish between causes of problems/alarm/fault indications, including:
  - process feed variations
  - instrument failure/wrong reading
  - electrical failure
  - mechanical failure
  - operational problem
- resolve non-routine problems
- take appropriate action to ensure a timely return to full performance.

Knowledge Evidence

Evidence must be provided that demonstrates knowledge of:

- all items on a schematic of the distillation unit and the function of each
- principles of operation of plant/equipment, including column, tray/packing, condensor and reboiler operations, and distillation principles, including stripping and rectification
- interactions between plant items/processes
- systems' operating parameters and limits, such as temperature, pressure, flow and system integrity limits
- methods of changing production rate, product specifications and process variables
- impact of external factors (e.g. variations in weather)
- problems that may arise, the range of possible causes and processes to develop solutions

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- process-specific science (physics, chemistry and biochemistry) to the level of being able to interpret the science and extract factors controlling the process and product and by-product production rate and quality (e.g. for chemistry interpret the equation for factors controlling rate and yield and also interfering reactions such as salts and hydrates)
- hierarchy of control
- hazards that may arise in the job/work environment, and:
  - their possible causes
  - potential consequences
  - appropriate risk controls.

Assessment Conditions

- The unit should be assessed holistically and the judgement of competence based on a holistic assessment of the evidence.
- Where competency has not already been achieved in
  - PMAOPS201 Operate fluid flow equipment
  - PMAOPS205 Operate heat exchangers

  they may be co-delivered and co-assessed.
- 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 operation of an industrial style distillation unit
  - 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’.

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- 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.
- Assessors must satisfy the assessor competency requirements that are in place at the time of the assessment as set by the VET regulator.
- In addition, the assessor or anyone acting in subject matter expert role in assessment must demonstrate both technical competency and currency. If the assessor cannot demonstrate technical competency and currency they must assess with a subject matter expert who does meet these requirements.
- Technical competence can be demonstrated through one or more of:
  - relevant VET or other qualification/Statement of Attainment
  - appropriate workplace experience undertaking the type of work being assessed under routine and non-routine conditions
  - appropriate workplace experience supervising/evaluating the type of work being assessed under routine and non-routine conditions
- Currency can be demonstrated through one or more of:
  - being currently employed undertaking the type of work being assessed
  - being employed by the organisation undertaking the type of work being assessed and having maintained currency in accordance with that organisation's policies and procedures
  - having consulted/had contact with an organisation undertaking the type of work being assessed within the last twelve months, the consultation/contact being related to assessment
  - conducting on-the-job training/assessments of the type of work being assessed
  - being an active member of a relevant professional body and participating in activities relevant to the assessment of this type of work.

Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=9fc2cf53-e570-4e9f-ad6a-b228ffdb6875

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PMAOPS302 Operate reactors and reaction equipment

Modification History

Release 1. Supersedes and is equivalent to PMAOPS302B Operate reactors and reaction equipment

Application

This unit of competency covers the skills and knowledge required to operate a production unit which, as its prime function, causes and controls a chemical reaction. The production unit operation will integrate several plant items (single unit operations). Operation of the production unit includes the operation of ancillary equipment that is integral to the operation of the production unit, such as:

- heating/cooling
- mixing
- separating
- catalyst regeneration
- weigh/charge/dispense
- pumps/valves.

The unit of competency applies to reactor or reaction equipment, such as:

- batch
- continuous
- catalytic
- fluidised bed
- pressurised/under vacuum
- gas/liquid/slurry/emulsion.

This unit of competency applies to operations technicians who are required to demonstrate a significant understanding of the process and the equipment operation in order to identify and rectify operational problems, run all aspects of the reactor operation, monitor and manage the supply of raw materials and output of product, and adjust product properties to meet specifications.

This unit of competency applies to an individual operating independently in a plant with local control or in liaison with the control room operator in a plant with a centralised control panel, such as distributed control system (DCS) type controls.

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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 does not require the operation of a central control panel.

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	**Prepare for work**	1.1	Receive and give shift handover
		1.2	Identify work requirements
		1.3	Identify and control hazards
		1.4	Coordinate with appropriate personnel
		1.5	Check for recent work undertaken on reactor unit
		1.6	Note any outstanding/incomplete work
		1.7	Check operational status of reactor unit
2	**Operate reactor unit in accordance with procedures**	2.1	Describe the type of reactor unit, the component plant items and their duties
		2.2	Complete routine checks, logs and paperwork taking action on unexpected readings

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		2.3	Change rate, grade or specification smoothly
		2.4	Manage transitions smoothly and in a timely manner to minimise scrap/off grade as a result of a transition
		2.5	Adjust reactor unit and its component plant items as appropriate to their type and duty to maximise performance
		2.6	Charge/discharge reactor, if appropriate
		2.7	Monitor condition of catalyst, if appropriate, and take action to maintain production schedule and quality
		2.8	Monitor materials and stock levels of fees and take action to maintain production schedule and quality.
3	**Diagnose and take action on abnormal situations**	3.1	Monitor reactor unit and its component plant items frequently and critically throughout shift using measured/indicated data and senses
		3.2	Describe impacts of any changes upstream and downstream
		3.3	Recognise actual and developing situations which may require action
		3.4	Apply operational knowledge to resolve problems
		3.5	Take actions on abnormal situations which cannot be resolved during the shift to ensure safety and the resolution of the situation
		3.6	Follow through items initiated until final resolution has occurred
4	**Isolate and de-isolate reactor unit and its component plant items**	4.1	Complete any required pre-start checks
		4.2	Start up/shut down reactor unit according to the reactor type and duty in liaison with other personnel
		4.3	Start up/shut down/changeover component plant items within unit according to their type and duty in liaison with other personnel
		4.4	Build reaction rate steadily and stabilise reaction system

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			to produce in specification product at specified rates within minimum time
		4.5	Isolate entire reactor unit and/or any component plant item
		4.6	Make safe for required work
		4.7	Check reactor unit/plant item is ready to be returned to service
		4.8	De-isolate and prepare reactor unit/plant item for return to service
5	**Clean reactors/vessels in accordance with procedures**	5.1	Identify cleaning requirements
		5.2	Clean to requirements

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

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All operations to which this unit applies are subject to stringent health, safety and environment (HSE) requirements, which may be imposed through state/territory or federal legislation, and these must not be compromised at any time. Where there is an apparent conflict between performance criteria and HSE requirements, the HSE requirements take precedence.

Hazards

Hazards include one or more of the following:

- 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
- plant services (steam, condensate and cooling water)
- working at heights, in restricted or confined spaces, or in environments subjected to heat, noise, dusts or vapours
- 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
-

Situations requiring action

Situations requiring action include one or more of the following:

- variations in catalyst activity
- control of exotherm/endotherm
- adjustments to meet product specifications
- variations in feed rates/quality
- raw materials variations
- instrument failure/wrong reading
- equipment failure (electrical/mechanical)
- mechanical failure
- operational problems

Actions on abnormal situations includes the following:

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- determine problems needing action
- determine possible fault causes
- develop solutions to problems which do not have a known solution
- follow through items initiated until final resolution has occurred
- report problems outside area of responsibility to designated person

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

Start up/shut down

Start up/shut down includes the following:

- start up and shut down to/from normal operating conditions
- start up and shut down to/from isolated, cold or empty
- start up and shut down to/from other conditions/situations experienced on the plant

Procedures

All operations must be performed in accordance with relevant procedures.

Procedures are written, verbal, visual, computer-based or in some other form, 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

Operate

Operate is to monitor, adjust/make change to the production unit and/or its component items to meet specifications, by one or more of the following:

- manually in the plant
- using local controller in the plant

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Product Product includes anything produced by a process step and so includes:

- intermediate products, such as the product from one process step, which then becomes the feed for another

Unit Mapping Information

Release 1. Supersedes and is equivalent to PMAOPS302B Operate reactors and reaction equipment

Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=9fc2cf53-e570-4e9f-ad6a-b228ffdb6875

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Assessment Requirements for PMAOPS302 Operate reactors and reaction equipment

Modification History

Release 1. Supersedes and is equivalent to PMAOPS302B Operate reactors and reaction equipment

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 the ability to:

- use data and own senses to monitor plant and maximise performance
- perform pre-start checks, start-up/shutdown and cleaning procedures, and isolations and de-isolations
- predict impact of a change in one unit/area on other plant units/areas and take appropriate action
- identify hazards and risks and apply risk control procedures
- identify early warning signs of equipment/processes needing attention or with potential problems
- resolve routine and non-routine problems
- use schematics and data to monitor plant and optimise performance
- identify hazards and risks and apply risk control procedures.

Knowledge Evidence

Evidence must be provided that demonstrates knowledge of:

- all items on a schematic of the production unit and functions, and troubleshooting of major components and their problems
- principles of operation of plant/equipment:
  - basis of the process used in the production unit to cause chemical reaction
  - methods of controlling the reaction rate and yield and the advantages and disadvantages of each
  - impact of external factors (e.g. variations in weather and feed)
- interactions between plant items/processes
- process-specific science (physics, chemistry and biochemistry) to the level of being able to interpret the science and extract factors controlling the process and product and by-product production rate and quality (e.g. for chemistry interpret the equation for factors controlling rate and yield and also interfering reactions, such as salts and hydrates)
- the nature/condition of materials at each stage of the reaction, the changes which have occurred in that stage and why they have occurred

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- the reaction in chemical terms and equations, including the effect of changing reaction variables (e.g. temperature, pressure, catalyst, concentration and pH)
- systems' operating parameters and integrity limits, including temperature, pressure, flow and pH
- product specifications and tolerances
- routine and non-routine problems that may arise, the range of possible causes and processes to develop solutions
- hierarchy of control
- hazards that may arise in the job/work environment, and:
  - their possible causes
  - potential consequences
  - appropriate risk controls.

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 an industrial style reactor
  - may use industry-based simulation for part only 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
  - industrybased 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).

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- 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.
- Assessors must satisfy the assessor competency requirements that are in place at the time of the assessment as set by the VET regulator.
- In addition, the assessor or anyone acting in subject matter expert role in assessment must demonstrate both technical competency and currency. If the assessor cannot demonstrate technical competency and currency they must assess with a subject matter expert who does meet these requirements.
- Technical competence can be demonstrated through one or more of:
  - relevant VET or other qualification/Statement of Attainment
  - appropriate workplace experience undertaking the type of work being assessed under routine and non-routine conditions
  - appropriate workplace experience supervising/evaluating the type of work being assessed under routine and non-routine conditions
- Currency can be demonstrated through one or more of:
  - being currently employed undertaking the type of work being assessed
  - being employed by the organisation undertaking the type of work being assessed and having maintained currency in accordance with that organisation’s policies and procedures
  - having consulted/had contact with an organisation undertaking the type of work being assessed within the last twelve months, the consultation/contact being related to assessment
  - conducting on-the-job training/assessments of the type of work being assessed
  - being an active member of a relevant professional body and participating in activities relevant to the assessment of this type of work.

Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=9fc2cf53-e570-4e9f-ad6a-b228ffdb6875

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PMAOPS402 Respond to abnormal process situations

Modification History

Release 1. Supersedes and is equivalent to PMAOPS402A Respond to abnormal process situations

Application

This unit of competency covers the skills and knowledge required to recognise and resolve abnormal process situations that are complex and/or not solvable by direct observation. The problem would normally impact an entire plant system or process. Examples include damage to/wear of tower trays, internal leaks of heat exchangers and collapse of/channelling in tower/column/vessel packing.

This unit of competency applies to senior technicians, para-professionals or those in similar roles who are required to apply in depth knowledge of process and plant in order to methodically investigate process, plant and technical problems, determine the cause and initiate corrective action.

This role is often performed using a small, usually ad hoc group, however, the person will take a lead technical role.

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

Pre-requisite Unit

MSMSUP390 Use structured problem-solving tools

Competency Field

Operations

Unit Sector

Elements and Performance Criteria

Elements describe the Performance criteria describe the performance needed to

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essential outcomes.		demonstrate achievement of the element.	
1	**Recognise there is a problem**	1.1	Compare current performance with expected/historic performance
		1.2	Identify plant/process areas with poor performance
		1.3	Check the impact of routine adjustments to improve performance
		1.4	Identify problems not solved by the routine solutions
2	**Define the problem**	2.1	Apply problem isolation techniques to isolate problem to a small part of the plant/process
		2.2	Quantify the effect of the problem in operational terms
		2.3	Postulate possible causes of the problem
		2.4	Identify types of evidence of each possible cause
		2.5	Investigate problem to accumulate evidence of cause type
		2.6	Analyse data to confirm cause of problem
		2.7	Determine the level of severity of the problem and priority of any required action
3	**Develop solution**	3.1	Discuss possible solutions to cause with stakeholders and technical experts
		3.2	Determine whether a quick fix is needed
		3.3	Arrange for implementation of quick fix if required
		3.4	Check effectiveness of quick fix and take action to maintain stable, safe operation
		3.5	Agree required final solution with stakeholders and technical experts
		3.6	Arrange for required solution to be undertaken in appropriate timeframe
		3.7	Follow items initiated through until final resolution has

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occurred

3.8 Check effectiveness of solution and take action to maintain or improve outcome

3.9 Complete reports to procedure

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

All operations to which this unit applies are subject to stringent health, safety and environment (HSE) requirements, which may be imposed through state/territory or federal legislation, and these must not be compromised at any time. Where there is an apparent conflict between performance criteria and HSE requirements, the HSE requirements take precedence.

Procedures

All operations must be performed in accordance with relevant procedures.

Procedures are written, verbal, visual, computer-based or in some other form, include one or more of the following:

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- 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

Problem isolation

Problem isolation uses techniques to isolate the cause of the problem to a specific part of the process or unit operation and uses techniques including one or more of the following:

- flow charts
- process logic/process requirements
- cause and effect diagrams/charts
- divide and conquer
- control charts, run charts (Shewhart charts)
- similarity/difference analysis
- other structured processes defined by the organisation

Problem analysis

Problem analysis identifies possible causes and examines the evidence for each cause and uses techniques including one or more of the following:

- Ishikawa/fishbone diagrams/
- logic tree
- histograms/Pareto analysis
- scatter grams
- brainstorming
- control charts, run charts (Shewhart charts)
- 6 Hats (Edward de Bono)
- other structured processes defined by the organisation

Unit Mapping Information

Release 1. Supersedes and is equivalent to PMAOPS402A Respond to abnormal process situations

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Links

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Assessment Requirements for PMAOPS402 Respond to abnormal process situations

Modification History

Release 1. Supersedes and is equivalent to PMAOPS402A Respond to abnormal process situations

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 the ability to:

- recognise signs of variations of plant and process that indicate different types of problems
- select and apply problem isolation and analysis techniques to determine the most likely cause of problem
- determine and initiate any immediate corrective action (quick fix) required
- determine and initiate longer term solution
- communicate and negotiate effectively with all stakeholders
- follow through to ensure resolution of problems
- undertake calculations.

Knowledge Evidence

Evidence must be provided that demonstrates knowledge of:

- principles of operation and process science for all unit operations within the system/area and the interrelationships between them
- cause/effect relationships between plant/process condition and process variable values
- indicators of abnormal process situations, and evidence of which cause is responsible for the abnormal situation
- impact of variations in plant and process and the distinctive signs of each variation (e.g. lower quality, lower rates, greater variability or greater difficulty in control).

Assessment Conditions

- The unit should be assessed holistically and the judgement of competence based on a holistic assessment of the evidence.
- Where competency has not been previously attained in *MSMSUP390 Use structured problem-solving tools* it may be co-delivered and co-assessed.
- The collection of performance evidence is best done from a report and/or folio of evidence drawn from:
    - a single project which provides sufficient evidence of the requirements of all the elements and performance criteria

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  - multiple smaller projects which together provide sufficient evidence of the requirements of all the elements and performance criteria.
- A third-party report, or similar, may be needed to testify to the work done by the individual, particularly when the project has been done as part of a project team.
- Assessment should use a 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, or a real project in an operational workplace.
- Knowledge evidence may be collected concurrently with performance evidence 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.
- Assessors must satisfy the assessor competency requirements that are in place at the time of the assessment as set by the VET regulator.
- In addition, the assessor or anyone acting in subject matter expert role in assessment must demonstrate both technical competency and currency. If the assessor cannot demonstrate technical competency and currency they must assess with a subject matter expert who does meet these requirements.
- Technical competence can be demonstrated through one or more of:
  - relevant VET or other qualification/Statement of Attainment
  - appropriate workplace experience undertaking the type of work being assessed under routine and non-routine conditions
  - appropriate workplace experience supervising/evaluating the type of work being assessed under routine and non-routine conditions
- Currency can be demonstrated through one or more of:
  - being currently employed undertaking the type of work being assessed
  - being employed by the organisation undertaking the type of work being assessed and having maintained currency in accordance with that organisation’s policies and procedures
  - having consulted/had contact with an organisation undertaking the type of work being assessed within the last twelve months, the consultation/contact being related to assessment
  - conducting on-the-job training/assessments of the type of work being assessed
  - being an active member of a relevant professional body and participating in activities relevant to the assessment of this type of work.

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Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=9fc2cf53-e570-4e9f-ad6a-b228ffdb6875

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PMAOPS405 Operate complex control systems

Modification History

Release 1. Supersedes and is equivalent to PMAOPS405A Operate complex control systems

Application

This unit of competency covers the skills and knowledge required to operate a complex control panel. The panel will control entire plant areas and multiple products/process streams and will use a large number of control loops and a broad range of control algorithms; and will probably include advanced process control (APC) as one of its operations. Its operation will require managing multiple complex tasks.

This unit of competency includes all such items of equipment and unit operations which form part of the control system, including as appropriate to the facility:

- process control systems (e.g. distributed control systems (DCS), and supervisory control and data acquisition (SCADA))
- use of multiple control systems
- interacting control loops/cascade control
- personal computers
- printers
- fire and gas detection/protection systems
- emergency shutdown (ESD) systems
- communications systems.

This unit of competency applies to senior technicians or those in similar roles who are required to apply in-depth knowledge of process and plant to in order to operate, monitor and optimise an entire plant area consisting of several plant units/systems, solve process problems and liaise with other plant areas.

This control system would typically be an advanced control system and may include operation of simpler control systems as part of its operation. The panel will typically be located off plant in a control room.

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

Pre-requisite Unit

Nil

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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	**Use operator interface**	1.1	Use keyboards, track ball and monitor and/or stand-alone controllers to access control system/panel
		1.2	Monitor the process using the operator interfaces
		1.3	Select appropriate controller modes
		1.4	Access historical data and information
		1.5	Acknowledge messages and alarms
		1.6	Access advanced control features as appropriate
2	**Access control information**	2.1	Obtain relevant data and information from the control system by applying systems knowledge
		2.2	Identify the status of individual pieces of equipment from the control panel and use information to identify potential faults
		2.3	Minimise fluctuations and variations in process through the interpretation of existing trends and control schematics
		2.4	Determine the overall operating effectiveness of the plant area related to the required targets for the area
		2.5	Record process variations/irregularities to procedures
3	**Control process variations and**	3.1	Monitor process using all information available in the control room

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	monitor operations	3.2	Use historical data to assist the identification of problems
		3.3	Process available information to identify potential faults
		3.4	Undertake required set point/output changes to meet plant area and process requirements
		3.5	Adjust production in response to test results and control panel information
		3.6	Monitor key process and environmental variables and take action to achieve required outcomes
		3.7	Adjust controller settings in accordance with procedures
		3.8	Use advanced control features as appropriate
		3.9	Turn controller features on and off to meet process and control needs
		3.10	Optimise operation of entire plant area in accordance with guidelines
		3.11	Undertake calibration operations in accordance with procedures.
		3.12	Coordinate with stakeholders external to the plant area in accordance with procedures
		3.13	Record adjustments and variations to specifications/schedules
		3.14	Communicate to appropriate personnel as required
4	**Facilitate planned and unplanned process start-ups and shutdowns**	4.1	Select and apply procedures to planned start-up and shutdown processes.
		4.2	Select and apply procedures to unplanned shutdown processes
		4.3	Implement all required emergency responses
		4.4	Communicate necessary information to all personnel affected by events
		4.5	Log all required information

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5	**Respond to alarms or out-of-specification conditions**	5.1	Identify system(s) affected by the alarm or condition
		5.2	Interpret alarms and prioritise actions to be taken
		5.3	Respond to the alarm or incident by following procedures
		5.4	Deal with any out-of-specification material in accordance with procedures
		5.5	Communicate the problem/solution to appropriate personnel
		5.6	Record the information as required
		5.7	Provide details of the alarm and action taken to the next shift at changeover
		5.8	Follow up on the incident to see that appropriate action has been taken
6	**Control hazards**	6.1	Identify hazards/changes in hazards in the production/processing work area
		6.2	Assess the risks arising from those hazards
		6.3	Implement measures to control risks in line with procedures and duty of care
		6.4	Communicate hazards and hazard controls to affected personnel
7	**Resolve other problems within scope of responsibility**	7.1	Identify possible problems in equipment, control systems or process
		7.2	Determine problems needing action
		7.3	Determine possible fault causes
		7.4	Rectify problem using appropriate solution within area of responsibility
		7.5	Follow initiated items through until final resolution has occurred

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7.6 Report problems outside area of responsibility to designated person

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

All operations to which this unit applies are subject to stringent health, safety and environment (HSE) requirements, which may be imposed through state/territory or federal legislation, and these must not be compromised at any time. Where there is an apparent conflict between performance criteria and HSE requirements, the HSE requirements take precedence.

Hazards

Hazards include one or more of the following:

- electricity
- gases and liquids under pressure
- equipment failures
- noise, rotational equipment or vibration

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- plant services (steam, condensate and cooling water)
- working at heights, in restricted or confined spaces, or in environments subjected to heat, dusts or vapours
- 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

Procedures

All operations must be performed in accordance with relevant procedures.

Procedures are written, verbal, visual, computer-based or in some other form, 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 are predictable problems with known solutions and include one or more of the following:

- operating without advanced control features
- loss of power/utilities
- analysing failure modes
- variation/loss of feed
- unstable control of pressure, temperature level and flows
- control equipment failure
- process plant trips
- change in atmospheric conditions (rain, temperature, wind and lightning)
- emergency situations
- control function problems

Non-routine

Non-routine problems are unexpected problems, or variations of previous

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problems

problems and must be resolved by applying operational knowledge to develop new solutions, either individually or in collaboration with relevant experts, to:

- determine problems needing action
- determine possible fault causes
- develop solutions to problems which do not have a known solution
- follow through items initiated until final resolution has occurred
- report problems outside area of responsibility to designated person

Operational knowledge includes one or more of the following:

- procedures
- training
- technical information, such as journals and engineering specifications
- remembered experience
- relevant knowledge obtained from appropriate people

Alarms or abnormal conditions

Alarms or other abnormal conditions include the following:

- emergency, including emergency shutdown (ESD)
- partial or complete controller failure

Unit Mapping Information

Release 1. Supersedes and is equivalent to PMAOPS405A Operate complex control systems

Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=9fc2cf53-e570-4e9f-ad6a-b228ffdb6875

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Assessment Requirements for PMAOPS405 Operate complex control systems

Modification History

Release 1. Supersedes and is equivalent to PMAOPS405A Operate complex control 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 include the ability to:

- interpret and respond to panel messages and alarms
- obtain and interpret data from the control system to minimise variation and maximise performance
- identify early warning signs of equipment/processes needing attention or with potential problems
- select and apply procedures for planned and unplanned start-up/shutdown
- identify hazards and risks and apply risk control procedures
- communicate and negotiate effectively with all stakeholders
- isolate the causes of problems and distinguish between causes of problems/alarm/fault indications, including:
  - instrument failure/malfunction
  - electrical failure/malfunction
  - mechanical failure/malfunction
  - equipment design deficiencies
  - product parameters (temperature, flows, pressure and levels)
  - process control system malfunction
  - power/utility failures
  - software problems
  - multitasking.

Knowledge Evidence

Evidence must be provided that demonstrates knowledge of:

- advanced control features
- interactions between control loops
- interactions between plant units within the entire plant
- the architecture and location of the process/production equipment
- specific plant process operations
- interactions between plant items/processes

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- product specifications and tolerances, systems operating parameters and system integrity limits
- process control philosophies and strategies
- emergency shutdown (ESD) procedures
- relevant science of the process (e.g. physics, chemistry and biochemistry) to the level of identifying and manipulating factors controlling process rate and product properties, and identifying and resolving potential problems
- basic science of upstream and downstream processes
- interactions between plant area and other value stream members
- impact of external factors (e.g. variations in weather and feed)
- complex process drawings (e.g. piping and instrumentation diagram (P&ID), process flow diagram (PFD), and cause and effect
- basis of control for the plant
- instrumentation and control systems, including feed forward, feed-back and open control
- instrumentation and control system components (e.g. relevant primary sensing devices, final control elements and transducers/transmitters)
- control loops (including proportional integral derivative (PID) control, set points, controlled variable and indicated variable)
- interaction between multiple control loops (including cascade control)
- impacts of changing controller settings and the limits within which changes can be made
- effective communication techniques
- organisation procedures
- uninterrupt power supply (UPS) and its applications and use
- duty of care obligations
- hierarchy of control
- hazards that may arise in the job/work environment, and:
  - their possible causes
  - potential consequences
  - appropriate risk controls.

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 industrial type complex control system, controlling a real or simulated process requiring demonstration of operation and responding to problems

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  - may use industry-based simulation for all 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.
- Assessors must satisfy the assessor competency requirements that are in place at the time of the assessment as set by the VET regulator.
- In addition, the assessor or anyone acting in subject matter expert role in assessment must demonstrate both technical competency and currency. If the assessor cannot demonstrate technical competency and currency they must assess with a subject matter expert who does meet these requirements.
- Technical competence can be demonstrated through one or more of:
  - relevant VET or other qualification/Statement of Attainment
  - appropriate workplace experience undertaking the type of work being assessed under routine and non-routine conditions
  - appropriate workplace experience supervising/evaluating the type of work being assessed under routine and non-routine conditions
- Currency can be demonstrated through one or more of:
  - being currently employed undertaking the type of work being assessed
  - being employed by the organisation undertaking the type of work being assessed and having maintained currency in accordance with that organisation's policies and procedures

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- having consulted/had contact with an organisation undertaking the type of work being assessed within the last twelve months, the consultation/contact being related to assessment
- conducting on-the-job training/assessments of the type of work being assessed
- being an active member of a relevant professional body and participating in activities relevant to the assessment of this type of work.

Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=9fc2cf53-e570-4e9f-ad6a-b228ffdb6875

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PMAOPS410 Operate remote production facilities

Modification History

Release 1. Supersedes and is equivalent to PMAOPS410B Monitor remote production facilities

Application

This unit of competency covers the skills and knowledge required to operate and monitor remote process/plant, including production facilities and its associated ancillary equipment and services, from a remote, off-site control system using ground based, satellite or other communications systems. It applies to remote facilities, such as wellheads, separation facilities, utility systems, compressor/pumping stations, treatment stations and satellite processes.

This unit of competency applies to senior technicians or similar roles who are required to apply in depth knowledge of process and plant to in order to operate, monitor and optimise the remote facility, perform tests and isolations, solve process problems and liaise with other plants and facilities.

This unit of competency would typically require the use of a control system, such as a distributed control systems (DCS) or supervisory control and data acquisition (SCADA).

It is not expected that there would be a ‘field operator’ available full time at the remote facility and arranging for one to attend could be part of the role.

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

Pre-requisite Unit

Nil

Competency Field

Operations

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Unit Sector

Elements and Performance Criteria

Elements describe the essential outcomes.		Performance criteria describe the performance needed to demonstrate achievement of the element.	
1	**Prepare for operation of remote facility**	1.1	Receive and give shift handover
		1.2	Identify work requirements
		1.3	Identify and control remote facility hazards
		1.4	Check for recent work undertaken on remote facility
		1.5	Note any outstanding/incomplete work
		1.6	Check operational status of remote facility
		1.7	Liaise with field operator and other personnel responsible for remote facility confirming expected attendance time and work to be performed
2	**Operate the remote facility**	2.1	Monitor the remote facility, its component plant items, utilities and environment frequently and critically throughout shift using measured/ indicated data
		2.2	Describe impacts of any environmental changes and changes upstream and downstream
		2.3	Recognise actual and developing situations which may require action
		2.4	Apply operational knowledge to resolve problems
		2.5	Take other actions on abnormal situations which cannot be resolved during the shift to ensure safety and the resolution of the situation
		2.6	Follow through items initiated until final resolution has occurred
3	**Recover and measure product**	3.1	Monitor quality and quantity of products and wastes generated

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		3.2	Maximise recovery of product and transfer in accordance with procedures
		3.3	Ensure all waste is treated in accordance with procedures and waste disposed of is within environmental/licence limits
		3.4	Ensure measuring, sampling, testing and data logging is occurring to schedule
4	**Organise required onsite activities**	4.1	Identify job scope and timing of required on-site work from monitored data, job schedules and observations of remote facility operations
		4.2	Arrange for appropriate personnel to attend remote site within the required timeframe
		4.3	Liaise with personnel attending site from their departure for remote site, their activities on remote site and their return to base
		4.4	Check effectiveness of on-site work before personnel leave remote site
5	**Isolate and de-isolate remote facility**	5.1	Arrange to have personnel on site in accordance with procedures
		5.2	Complete any required pre-start checks
		5.3	Start up/shut down remote facility according to the type and duty in liaison with other personnel
		5.4	Start up/shut down/changeover component plant items within unit according to their type and duty in liaison with other personnel
		5.5	Isolate entire remote facility and/or any component plant item
		5.6	Make safe for required work
		5.7	Check remote facility/plant item is ready to be returned to service
		5.8	De-isolate and prepare remote facility/plant item for

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return to service

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

All operations to which this unit applies are subject to stringent health, safety and environment (HSE) requirements, which may be imposed through state/territory or federal legislation, and these must not be compromised at any time. Where there is an apparent conflict between performance criteria and HSE requirements, the HSE requirements take precedence.

Hazards

Hazards include one or more of the following:

- remoteness/single operator
- electricity
- gases and liquids under pressure
- structural hazards
- structural collapse
- equipment failures
- industrial (machinery, equipment and product)

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- equipment or product mass
- noise, rotational equipment or vibration
- working at heights, in restricted or confined spaces, or in environments subjected to heat, dusts or vapours
- 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

Procedures

All operations must be performed in accordance with relevant procedures.

Procedures are written, verbal, visual, computer-based or in some other form, 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 are predictable problems with known solutions and include one or more of the following:

- variations in feed
- contamination of product
- control of temperature and pressure
- variations in waste
- equipment malfunction
- vibration

Non-routine problems

Non-routine problems are unexpected problems, or variations of previous problems and must be resolved by applying operational knowledge to develop new solutions, either individually or in collaboration with relevant experts, to:

- determine problems needing action

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- determine possible fault causes
- develop solutions to problems which do not have a known solution
- follow through items initiated until final resolution has occurred
- report problems outside area of responsibility to designated person

Operational knowledge includes one or more of the following:

- procedures
- training
- technical information, such as journals and engineering specifications
- remembered experience
- relevant knowledge obtained from appropriate people

Remote production facility

This unit of competency includes all such items of equipment and unit operations which form part of the remote production facility, including as appropriate to the facility, one or more of the following:

- valves
- pumps
- prime movers
- compressors
- separators
- instrumentation
- storage tanks, ponds and dams
- filters
- wellheads
- hydraulic well control panels
- fire and gas safety systems

Unit Mapping Information

Release 1. Supersedes and is equivalent to PMAOPS410B Monitor remote production facilities

Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=9fc2cf53-e570-4e9f-ad6a-b228ffdb6875

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Assessment Requirements for PMAOPS410 Operate remote production facilities

Modification History

Release 1. Supersedes and is equivalent to PMAOPS410B Monitor remote production facilities

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 the ability to:

- interpret and respond to panel messages and alarms
- obtain and interpret data from the control system to minimise variation and maximise performance
- predict impact of a change in one unit/area on other plant units/areas and take action
- apply process knowledge to monitor and predict the need for adjustments to system components
- identify early warning signs of equipment/processes needing attention or with potential problems and take action
- identify hazards and risks and apply risk control procedures.

Knowledge Evidence

Evidence must be provided that demonstrates knowledge of:

- all items on a schematic of the remote system and the function of each
- remote terminal unit, functions, operation and problems
- nature/condition of materials entering and leaving each stage of the process
- changes which have occurred in that stage and why they have occurred
- methods of changing production rates and the advantages and disadvantages of each
- effect of specific climatic and environmental factors
- process parameters and limits (e.g. temperature, pressure, flow and pH)
- principles of operation of plant/equipment
- physics and chemistry relevant to the process unit and the fluids involved
- local lease and well operations requirements and constraints
- corrective action appropriate to the problem cause
- function and troubleshooting of major components and their problems
- hierarchy of control
- hazards that may arise in the job/work environment, and:
  - their possible causes
  - potential consequences
  - appropriate risk controls.

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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 industrial type remote facilities allowing operation
  - may use industry-based simulation for all 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.
- Assessors must satisfy the assessor competency requirements that are in place at the time of the assessment as set by the VET regulator.

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- In addition, the assessor or anyone acting in subject matter expert role in assessment must demonstrate both technical competency and currency. If the assessor cannot demonstrate technical competency and currency they must assess with a subject matter expert who does meet these requirements.
- Technical competence can be demonstrated through one or more of:
  - relevant VET or other qualification/Statement of Attainment
  - appropriate workplace experience undertaking the type of work being assessed under routine and non-routine conditions
  - appropriate workplace experience supervising/evaluating the type of work being assessed under routine and non-routine conditions
- Currency can be demonstrated through one or more of:
  - being currently employed undertaking the type of work being assessed
  - being employed by the organisation undertaking the type of work being assessed and having maintained currency in accordance with that organisation's policies and procedures
  - having consulted/had contact with an organisation undertaking the type of work being assessed within the last twelve months, the consultation/contact being related to assessment
  - conducting on-the-job training/assessments of the type of work being assessed
  - being an active member of a relevant professional body and participating in activities relevant to the assessment of this type of work.

Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=9fc2cf53-e570-4e9f-ad6a-b228ffdb6875

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PMAOPS411 Manage plant shutdown and restart

Modification History

Release 1. Supersedes and is equivalent to PMAOPS411B Manage plant shutdown and restart

Application

This unit of competency covers the skills and knowledge required to manage the shutdown and restart of a complex and integrated plant. It applies to planned, shutdowns and start-ups, but may also be applied to unplanned and emergency shutdowns (ESD). It does not apply to plant trips.

This unit of competency applies to senior technicians, panel technicians, outside technicians and those in similar roles who are required to apply in-depth knowledge of process and plant to in order to adapt normal practice, within the overall guidelines, to the situation; balance the varying requirements to ensure the shutdown occurs with maximum safety to personnel, plant, the environment and the business's productivity (in that order); and coordinate all personnel involved in the shutdown to ensure it happens in as orderly a fashion as possible and that the plant is left in the best condition possible for a quick restart.

This unit of competency does not apply to individual plant operators shutting down individual production units or following directions during a shutdown; these are included in the unit of competency for operating a particular production unit.

The individual will be liaising and communicating with all internal and external stakeholders.

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

Pre-requisite Unit

Nil

Competency Field

Operations

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Unit Sector

Elements and Performance Criteria

Elements describe the essential outcomes.		Performance criteria describe the performance needed to demonstrate achievement of the element.	
1	**Manage shutdown sequence**	1.1	Check and verify safety systems to ensure that the unit has been made safe
		1.2	Identify the reason for, or cause of, the shutdown by troubleshooting the system and by utilising all available data and information systems
		1.3	Obtain confirmation of the identified shutdown from field-based operators to verify both the nature and the reliability of the shutdown
		1.4	Rectify or initiate procedures to rectify the fault or shutdown cause through either repair of the operational fault or readjustment before returning the system to start-up status
2	**Conduct start-up process**	2.1	Satisfy all start-up permissives prior to start-up process being commenced
		2.2	Identify hazards and check that hazard controls are operational and effective
		2.3	Conduct start-up according to procedures and in a safe and efficient manner, ensuring a return to steady state operation is achieved
3	**Document shutdown and start-up process**	3.1	Complete all logs and workplace documentation relating to the shutdown/start-up process, ensuring all details, actions and responses are accurately recorded
		3.2	Record any further ongoing production problems and report to appropriate persons or authority

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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

All operations to which this unit applies are subject to stringent health, safety and environment (HSE) requirements, which may be imposed through state/territory or federal legislation, and these must not be compromised at any time. Where there is an apparent conflict between performance criteria and HSE requirements, the HSE requirements take precedence.

Hazards

Hazards include one or more of the following:

- electricity
- 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
- plant services (steam, condensate and cooling water)
- working at heights, in restricted or confined spaces, or in environments subjected to heat, dusts or vapours
- flammability and explosivity

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- hazardous products and materials
- unauthorised personnel
- sharp edges, protrusions or obstructions
- slippery surfaces, spills or leaks
- extreme weather
- other hazards that might arise

Procedures All operations must be performed in accordance with relevant procedures.

Procedures are written, verbal, visual, computer-based or in some other form, 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

Unit Mapping Information

Release 1. Supersedes and is equivalent to PMAOPS411B Manage plant shutdown and restart

Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=9fc2cf53-e570-4e9f-ad6a-b228ffdb6875

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Assessment Requirements for PMAOPS411 Manage plant shutdown and restart

Modification History

Release 1. Supersedes and is equivalent to PMAOPS411B Manage plant shutdown and restart

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 the ability to:

- interpret and analyse data to decide on type of shutdown required
- plan for efficient shutdown to:
  - cold
  - warm
  - hot
- use data to identify reason for/cause of shutdown and determine action to be taken
- select and apply procedures for planned and unplanned start-up/shutdown
- ensure all safety, permit and system preparations are in place as required for shutdown and start-up
- identify hazards and risks and apply risk control procedures.

Knowledge Evidence

- Evidence must be provided that demonstrates knowledge of:
- shutdown/start-up philosophy and procedures
- correct methods of starting, stopping, operating and controlling process
- emergency shutdown (ESD) procedures
- required state of plant and equipment to allow for a restart
- hierarchy of control
- hazards that may arise in the job/work environment, and:
  - their possible causes
  - potential consequences
  - appropriate risk controls.

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

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  - 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 an industrial plant allowing demonstration of shutdown and restart
  - 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
  - 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.
- Assessors must satisfy the assessor competency requirements that are in place at the time of the assessment as set by the VET regulator.
- In addition, the assessor or anyone acting in subject matter expert role in assessment must demonstrate both technical competency and currency. If the assessor cannot demonstrate technical competency and currency they must assess with a subject matter expert who does meet these requirements.
- Technical competence can be demonstrated through one or more of:
  - relevant VET or other qualification/Statement of Attainment
  - appropriate workplace experience undertaking the type of work being assessed under routine and non-routine conditions
  - appropriate workplace experience supervising/evaluating the type of work being assessed under routine and non-routine conditions

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- Currency can be demonstrated through one or more of:
  - being currently employed undertaking the type of work being assessed
  - being employed by the organisation undertaking the type of work being assessed and having maintained currency in accordance with that organisation's policies and procedures
  - having consulted/had contact with an organisation undertaking the type of work being assessed within the last twelve months, the consultation/contact being related to assessment
  - conducting on-the-job training/assessments of the type of work being assessed
  - being an active member of a relevant professional body and participating in activities relevant to the assessment of this type of work.

Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=9fc2cf53-e570-4e9f-ad6a-b228ffdb6875

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PMAOPS433 Manage wells and gathering systems

Modification History

Release 1. Supersedes and is equivalent to PMAOPS433A Manage wells and gathering systems

Application

This unit of competency covers the skills and knowledge required to manage a group of wells and gathering systems so as to optimise the output from all the wells. The management is of the technical aspects of well/system operation, and while this person may also manage well operating personnel, that is not part of this competency.

This unit of competency applies to senior operators, field technicians and those in similar roles who are required to apply in-depth knowledge of process and plant in order to examine data and make and/or recommend changes to optimise the output of the group of wells, prioritise and coordinate the work of the team, and undertake investigations and solve well and operating problems which are beyond the ability of the well operator.

This unit of competency includes all such items of equipment and unit operations which form part of the well/system. A unit comprises two or more components of plant/equipment that are operated together to produce product, including as appropriate to the facility:

- wellheads
- chokes and control valves
- meters
- flow lines
- high point vents
- low point drains
- valves, including non-return and pressure/vacuum relief
- pumps and their prime movers
- product separation units
- instrumentation and control systems (variable speed drive (VSD) and proportional integral derivative (PID))
- testing equipment
- power units
- drive heads
- flares
- fuel gas systems
- chemical injection equipment
- field flares
- storage tanks.

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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	**Prepare for work**	1.1	Receive and give shift handover
		1.2	Identify work requirements
		1.3	Identify and control hazards
		1.4	Coordinate with appropriate personnel
		1.5	Check for recent work undertaken on wells and gathering systems
		1.6	Note any outstanding/incomplete work
		1.7	Check operational status of wells and gathering systems
		1.8	Determine appropriate schedule and priorities for work
2	**Operate site, well/system and equipment**	2.1	Complete site checks
		2.2	Use well control systems
		2.3	Take required reading
		2.4	Operate plant.

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		2.5	Start up/shut down well/system
		2.6	Isolate/de-isolate an item of, or an entire well/system
3	**Optimise wells and gathering systems**	3.1	Analyse network
		3.2	Interpret network communication
		3.3	Determine processing plant requirements and the impact of this on well and system operation
		3.4	Investigate status of individual wells
		3.5	Advise well operator of needed adjustments
		3.6	Recommend well stimulation or other required action
		3.7	Ensure flows from wells and systems meet plant and organisation needs
		3.8	Complete logs and reports as required
4	**Prioritise and organise work**	4.1	Ensure required maintenance work has been requested
		4.2	Prioritise maintenance work in liaison with appropriate personnel
		4.3	Organise well shutdowns to suit production requirements where practical
		4.4	Coordinate field operators to ensure their work and priorities match plant and organisation requirements
5	**Solve problems**	5.1	Provide guidance to operators for shutdown/start-up as required
		5.2	Develop the technical problem-solving capability of well operators
		5.3	Analyse data from wells and systems to identify systemic or recurring problems
		5.4	Take action to solve problems

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6	**Finalise shift activities**	6.1	Complete shift tasks as appropriate
		6.2	Ensure identified faults are correctly logged/reported for action
		6.3	Ensure incomplete tasks are scheduled for follow-up
		6.4	Ensure all logs and reporting are complete and understood
		6.5	Check operators have completed required tasks

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

All operations to which this unit applies are subject to stringent health, safety and environment (HSE) requirements, which may be imposed through state/territory or federal legislation, and these must not be compromised at any time. Where there is an apparent conflict between

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performance criteria and HSE requirements, the HSE requirements take precedence.

Hazards

Hazards include one or more of the following:

- 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
- plant services (steam, condensate and cooling water)
- working at heights, in restricted or confined spaces, or in environments subjected to heat, dusts or vapours
- 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

Procedures

All operations must be performed in accordance with relevant procedures.

Procedures are written, verbal, visual, computer-based or in some other form, 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 are predictable problems with known solutions and include one or more of the following:

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- leakage
- solids (formation fines)
- vibration
- loss of control of pressure and/or flow
- hydrate formation and blockages
- liquid slugging
- corrosion
- erosion
- sulphate reducing bacteria
- scale formation
- equipment failure
- change in product parameters (e.g. temperature, flow, pressure and level)
- fouling or contamination

Non-routine problems

Non-routine problems are unexpected problems, or variations of previous problems and must be resolved by applying operational knowledge to develop new solutions, either individually or in collaboration with relevant experts, to:

- determine problems needing action
- determine possible fault causes
- develop solutions to problems which do not have a known solution
- follow through items initiated until final resolution has occurred
- report problems outside area of responsibility to designated person

Operational knowledge includes one or more of the following:

- procedures
- training
- technical information, such as journals and engineering specifications
- remembered experience
- relevant knowledge obtained from appropriate people

Product

Product includes anything produced by a process step and so includes:

- intermediate products, such as the product from one process step, which then becomes the feed for another

Logs and reports

Logs and reports include one or more of the following:

- paper or electronic-based logs and reports

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- verbal/radio reports
- reporting items found which require action

Lease maintenance areas requiring action

Lease maintenance areas requiring action include one or more of the following:

- land erosion
- fence and gate integrity
- weeds and other growth
- actions of feral or other fauna
- other required items

Unit Mapping Information

Release 1. Supersedes and is equivalent to PMAOPS433A Manage wells and gathering systems

Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=9fc2cf53-e570-4e9f-ad6a-b228ffdb6875

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Assessment Requirements for PMAOPS433 Manage wells and gathering systems

Modification History

Release 1. Supersedes and is equivalent to PMAOPS433A Manage wells and gathering 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 include the ability to:

- undertake readings and operate and monitor well system
- analyse and interpret network communication and data on individual wells and recommend action to ensure flow meets plant and organisation needs
- perform site checks, start-up/shutdown procedures, and isolations and de-isolations
- interpret fluid level readings and maintain fluid levels
- plan and coordinate the work of the team
- develop the technical problem solving capability of well operators
- identify early warning signs of equipment/processes needing attention or with potential problems
- identify hazards and risks and apply risk control procedures
- communicate effectively with team, group, supervisors and other personnel
- calculate volumetric flow rates and equipment efficiencies.

Knowledge Evidence

Evidence must be provided that demonstrates knowledge of:

- oil/gas formation, structure and completions for coal seam gas (CSG), traditional or other oil/gas formations
- coal type and structure or other bedrock structures
- well design and construction
- inter-well communications (e.g. pressure, flow and other technical parameters)
- well status data (e.g. well flows, flow rates, pressure and temperature, downhole conditions and information)
- hydrate formation
- free flow and pumped wells
- pumping principles
- gas flow principles
- gas/water separation principles
- draining and venting requirements
- corrosion control, chemical handling and safety data sheets (SDS)

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- flange pressure and temperature ratings (basic)
- cathodic protection (basic)
- downhole drawings (DHDs) and their application to plant/well operation
- remote terminal unit, functions, operation and problems
- pump, drivehead, fuel gas systems operations and principles
- fluid dynamics and statics as relevant to the system
- reservoir management
- methods of changing production rates and the advantages and disadvantages of each
- water testing and gas break through testing techniques
- local lease and well operations requirements and constraints.

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 hydrocarbon wells and gathering systems allowing demonstration of operation
  - may use industry-based simulation for 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).

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- 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.
- Assessors must satisfy the assessor competency requirements that are in place at the time of the assessment as set by the VET regulator.
- In addition, the assessor or anyone acting in subject matter expert role in assessment must demonstrate both technical competency and currency. If the assessor cannot demonstrate technical competency and currency they must assess with a subject matter expert who does meet these requirements.
- Technical competence can be demonstrated through one or more of:
  - relevant VET or other qualification/Statement of Attainment
  - appropriate workplace experience undertaking the type of work being assessed under routine and non-routine conditions
  - appropriate workplace experience supervising/evaluating the type of work being assessed under routine and non-routine conditions
- Currency can be demonstrated through one or more of:
  - being currently employed undertaking the type of work being assessed
  - being employed by the organisation undertaking the type of work being assessed and having maintained currency in accordance with that organisation’s policies and procedures
  - having consulted/had contact with an organisation undertaking the type of work being assessed within the last twelve months, the consultation/contact being related to assessment
  - conducting on-the-job training/assessments of the type of work being assessed
  - being an active member of a relevant professional body and participating in activities relevant to the assessment of this type of work.

Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=9fc2cf53-e570-4e9f-ad6a-b228ffdb6875

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PMAOPS434 Commission wells and gathering systems

Modification History

Release 1. Supersedes and is equivalent to PMAOPS434A Commission wells and gathering systems

Application

This unit of competency covers the skills and knowledge required to commission a well, its gathering system and their associated systems. It applies to operational commissioning which takes place after pre-commissioning of equipment and systems; pre-commissioning is typically performed by a contractor or projects team.

This unit of competency applies to senior operators, field technicians and those in similar roles who are required to apply in-depth knowledge of process and plant to in order to bring a new (or worked over/rejuvenated) well and its gathering system on line, make adjustments to ensure it is in steady operation and delivering at the required rate, balance the impact of the new well on the entire system, and ensure the system is ready to be handed over to a field operator for normal operation.

This unit of competency includes all such items of equipment and unit operations which form part of the well/system. A unit comprises two or more components of plant/equipment that are operated together to produce product, including as appropriate to the facility:

- wellheads
- chokes and control valves
- meters
- flow lines
- high point vents
- low point drains
- valves, including non-return and pressure/vacuum relief
- pumps and their prime movers
- product separation units
- instrumentation and control systems (variable speed drive (VSD) and proportional integral derivative (PID))
- testing equipment
- power units
- drive heads
- flares
- fuel gas systems
- chemical injection equipment
- field flares

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- storage tanks.

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	**Prepare for work**	1.1	Receive and give shift handover
		1.2	Identify work requirements
		1.3	Identify and control hazards
		1.4	Coordinate with appropriate personnel
		1.5	Check well and its gathering system is ready for commissioning
		1.6	Determine appropriate schedule and priorities for work
2	**Accept handover of well and gathering system**	2.1	Ensure documents and other records provided match 'as is' plant and equipment
		2.2	Check all issues have been satisfactorily resolved
		2.3	Confirm status of individual items being handed over
		2.4	Ensure plant and equipment are operationally sound and in accordance with contract
		2.5	Accept handover when appropriate

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		2.6	Complete logs and reports in accordance with procedures
3	**Commission well in accordance with procedures**	3.1	Commission support systems
		3.2	Commission wellhead and components
		3.3	Make adjustments to bring well to stable operation
4	**Commission gathering system in accordance with procedures**	4.1	Commission support systems
		4.2	Introduce product to gathering system
		4.3	Check all equipment is operating correctly
		4.4	Take action to solve problems
5	**Monitor and adjust well and gathering system to meet production requirements**	5.1	Take required readings
		5.2	Ensure telemetry and controls are functional
		5.3	Adjust downhole pump speed to maintain correct liquid level
		5.4	Monitor nearby wells for impact of new well
		5.5	Complete other site checks
		5.6	Liaise with relevant operational personnel as required
		5.7	Make appropriate adjustments to ensure new well is performing as required
		5.8	Adjust new well and gathering system to balance the overall production to meet requirements
6	**Finalise commissioning activities**	6.1	Complete commissioning tasks as appropriate
		6.2	Ensure identified faults are correctly logged/reported for action
		6.3	Ensure incomplete tasks are scheduled for follow-up

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6.4 Ensure all logs and reporting are complete and understood

6.5 Check all systems are operational and all relevant personnel are informed

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

All operations to which this unit applies are subject to stringent health, safety and environment (HSE) requirements, which may be imposed through state/territory or federal legislation, and these must not be compromised at any time. Where there is an apparent conflict between performance criteria and HSE requirements, the HSE requirements take precedence.

Hazards

Hazards include one or more of the following:

- electricity
- gas

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- 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
- working at heights, in restricted or confined spaces, or in environments subjected to heat, dusts or vapours
- 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

Procedures

All operations must be performed in accordance with relevant procedures.

Procedures are written, verbal, visual, computer-based or in some other form, 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 are predictable problems with known solutions and include one or more of the following:

- leakage
- solids (formation fines)
- vibration
- loss of control of pressure and/or flow
- hydrate formation and blockages
- liquid slugging
- corrosion
- erosion

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- sulphate reducing bacteria
- scale formation
- equipment failure
- change in product parameters (e.g. temperature, flow, pressure and level)
- fouling or contamination

Non-routine problems

Non-routine problems are unexpected problems, or variations of previous problems and must be resolved by applying operational knowledge to develop new solutions, either individually or in collaboration with relevant experts, to:

- determine problems needing action
- determine possible fault causes
- develop solutions to problems which do not have a known solution
- follow through items initiated until final resolution has occurred
- report problems outside area of responsibility to designated person

Operational knowledge includes one or more of the following:

- procedures
- training
- technical information, such as journals and engineering specifications
- remembered experience
- relevant knowledge obtained from appropriate people

Support systems and equipment

Support systems and equipment include as appropriate to the well system:

- fuel gas
- lubricating oil
- check valves
- control valves
- remote terminal unit
- telemetry (communications to base)
- control systems
- distributed control systems (DCS) screens
- other systems and equipment

Product

Product includes anything produced by a process step and so includes:

- intermediate products, such as the product from one process step, which then becomes the feed for another

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Logs and reports	Logs and reports include one or more of the following: • paper or electronic-based logs and reports • verbal/radio reports • reporting items found which require action

Unit Mapping Information

Release 1. Supersedes and is equivalent to PMAOPS434A Commission wells and gathering systems

Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=9fc2cf53-e570-4e9f-ad6a-b228ffdb6875

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Assessment Requirements for PMAOPS434 Commission wells and gathering systems

Modification History

Release 1. Supersedes and is equivalent to PMAOPS434A Commission wells and gathering 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 include the ability to:

- undertake readings and operate and monitor well system
- analyse and interpret network communication and data on individual wells and recommend action to ensure flow meets plant and organisation needs
- perform site checks, start-up/shutdown procedures, and isolations and de-isolations
- interpret fluid level readings and maintain fluid levels
- plan and coordinate the work of the team
- isolate the causes of problems and distinguish between causes of problems/alarm/fault indications, including:
  - instrumentation failure/malfunction
  - electrical failure/malfunction
  - mechanical failure/malfunction
  - control system failure/malfunction
  - mismatch between flow rates and system requirements
  - wear, tear and corrosion of plant and equipment
  - quality measurement inaccuracy (e.g. analyser or sampling deficiency)
  - systemic/recurring problems
- identify hazards and risks and apply risk control procedures
- calculate volumetric flow rates and equipment efficiencies.

Knowledge Evidence

Evidence must be provided that demonstrates knowledge of:

- oil/gas formation, structure and completions for coal seam gas (CSG), traditional or other oil/gas formations
- coal type and structure or other bedrock structures
- well design and construction
- inter-well communications (e.g. pressure, flow and other technical parameters)
- well status data (e.g. well flows, flow rates, pressure and temperature, and downhole conditions and information)

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- hydrate formation
- free flow and pumped wells
- pumping principles
- gas flow principles
- gas/water separation principles
- draining and venting requirements
- corrosion control, chemical handling and safety data sheets (SDS)
- flange pressure and temperature ratings (basic)
- cathodic protection (basic)
- downhole drawings (DHDs) and their application to plant/well operation
- remote terminal unit, functions, operation and problems
- pump, drivehead, fuel gas systems operations and principles
- fluid dynamics and statics as relevant to the system
- reservoir management
- all items on a schematic of the remote system and the function of each
- methods of changing production rates and the advantages and disadvantages of each
- effect of specific climatic and environmental factors
- water testing and gas break through testing techniques
- function and troubleshooting of major components and their problems
- hierarchy of control
- hazards that may arise in the job/work environment, and:
  - their possible causes
  - potential consequences
  - appropriate risk controls.

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 hydrocarbon wells and gathering systems allowing demonstration of commissioning
  - may use industry-based simulation for part of the unit particularly where safety, lack of opportunity or significant cost is an issue.

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- 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.
- Assessors must satisfy the assessor competency requirements that are in place at the time of the assessment as set by the VET regulator.
- In addition, the assessor or anyone acting in subject matter expert role in assessment must demonstrate both technical competency and currency. If the assessor cannot demonstrate technical competency and currency they must assess with a subject matter expert who does meet these requirements.
- Technical competence can be demonstrated through one or more of:
  - relevant VET or other qualification/Statement of Attainment
  - appropriate workplace experience undertaking the type of work being assessed under routine and non-routine conditions
  - appropriate workplace experience supervising/evaluating the type of work being assessed under routine and non-routine conditions
- Currency can be demonstrated through one or more of:
  - being currently employed undertaking the type of work being assessed
  - being employed by the organisation undertaking the type of work being assessed and having maintained currency in accordance with that organisation's policies and procedures

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- having consulted/had contact with an organisation undertaking the type of work being assessed within the last twelve months, the consultation/contact being related to assessment
- conducting on-the-job training/assessments of the type of work being assessed
- being an active member of a relevant professional body and participating in activities relevant to the assessment of this type of work.

Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=9fc2cf53-e570-4e9f-ad6a-b228ffdb6875

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PMAOPS450 Solve colour problems

Modification History

Release 1. Supersedes and is equivalent to PMAOPS450B Solve colour problems

Application

This unit of competency covers the skills and knowledge required to solve colour problems identified by internal and/or external customers. It applies to any colour problem, examples include:

- batches during manufacture do not conform to colour specification
- colour as supplied to customer does not conform
- colour as applied to substrate does not conform
- colour variation within the product
- colour was initially satisfactory but has changed over time.

This unit of competency applies to senior technicians or those in similar roles who are required to apply in-depth knowledge of process and plant in order to gather and analyse data, determine the cause of the problem and recommend a solution to the problem.

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	**Assist customer**	1.1	Clarify customer perception of problem

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	to articulate problem	1.2	Assess opportunities for a targeted response to meet customer needs
		1.3	Identify the rights and responsibilities of the customer and effectively communicate these to the customer
		1.4	Clarify the history of the problem
		1.5	Define problem and complete records
2	**Analyse possible problem causes**	2.1	Examine the colour of the object/surface
		2.2	Compare colour to standard to determine if colour faulty
		2.3	Determine potential causes if colour faulty
		2.4	Analyse history of problem for potential causes
		2.5	Question customer to clarify issues revealed by examination
		2.6	Take samples and arrange for tests as appropriate
		2.7	Determine range of possible causes consistent with data available
		2.8	Determine most likely cause of defined and observed problem
3	**Satisfy customer needs**	3.1	Determine appropriate strategies and activities to resolve problem
		3.2	Negotiate proposed solution with customers and other relevant parties
		3.3	Identify potential areas of difficulty in customer service delivery and take actions to address them
		3.4	Follow items initiated through until final resolution has occurred
		3.5	Meet customer needs within the scope of area of responsibility
		3.6	Report problems outside area of responsibility to designated person

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3.7 Follow procedures where a decision is made to terminate a service

3.8 Complete reports to procedure

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

All operations to which this unit applies are subject to stringent health, safety and environment (HSE) requirements, which may be imposed through state/territory or federal legislation, and these must not be compromised at any time. Where there is an apparent conflict between performance criteria and HSE requirements, the HSE requirements take precedence.

Routine problems

Routine problems are predictable problems with known solutions and include one or more of the following:

- wrong colourant
- wrong colourant amount
- incorrect processing/mixing/dispersing
- incorrect substrate preparation (e.g. of painted/printed surface)

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- incorrect application (e.g. of paint/ink)
- incorrect colour measurement and testing
- defect standard
- process changes and variations

Non-routine problems

Non-routine problems are unexpected problems, or variations of previous problems and must be resolved by applying operational knowledge to develop new solutions, either individually or in collaboration with relevant experts, to:

- determine problems needing action
- determine possible fault causes
- develop solutions to problems which do not have a known solution
- follow through items initiated until final resolution has occurred
- report problems outside area of responsibility to designated person

Operational knowledge includes one or more of the following:

- procedures
- training
- technical information, such as journals and engineering specifications
- remembered experience
- relevant knowledge obtained from appropriate people

Procedures

All operations must be performed in accordance with relevant procedures.

Procedures are written, verbal, visual, computer-based or in some other form, 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

Product

Product includes anything produced by a process step and so includes:

- intermediate products, such as the product from one process step, which then becomes the feed for another

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Unit Mapping Information

Release 1. Supersedes and is equivalent to PMAOPS450B Solve colour problems

Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=9fc2cf53-e570-4e9f-ad6a-b228ffdb6875

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Assessment Requirements for PMAOPS450 Solve colour problems

Modification History

Release 1. Supersedes and is equivalent to PMAOPS450B Solve colour problems

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 the ability to:

- communicate effectively with internal and external customers to obtain all relevant information and negotiate a solution
- isolate the causes of problems and distinguish between causes of colour variations, including:
  - materials errors
  - processing errors
  - faulty surface preparation/application
- discriminate differences in hue, value and chroma (or colour/tone, lightness/shade and saturation)
- recognise colourant addition and colourant dispersion differences
- make judgements based on:
  - perceptibility
  - acceptability/tolerance
  - grade 1, 2 or 3 match as required by specification.

Knowledge Evidence

Evidence must be provided that demonstrates knowledge of:

- colour and the interaction of colour components during processing and in application
- impact of weathering/aging on colour as appropriate to the product
- causes and remedies of common colour problems
- communication and negotiation 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

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  - 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 products which may have colour 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.
- Assessors must satisfy the assessor competency requirements that are in place at the time of the assessment as set by the VET regulator.
- In addition, the assessor or anyone acting in subject matter expert role in assessment must demonstrate both technical competency and currency. If the assessor cannot demonstrate technical competency and currency they must assess with a subject matter expert who does meet these requirements.
- Technical competence can be demonstrated through one or more of:
  - relevant VET or other qualification/Statement of Attainment
  - appropriate workplace experience undertaking the type of work being assessed under routine and non-routine conditions

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  - appropriate workplace experience supervising/evaluating the type of work being assessed under routine and non-routine conditions
- Currency can be demonstrated through one or more of:
  - being currently employed undertaking the type of work being assessed
  - being employed by the organisation undertaking the type of work being assessed and having maintained currency in accordance with that organisation's policies and procedures
  - having consulted/had contact with an organisation undertaking the type of work being assessed within the last twelve months, the consultation/contact being related to assessment
  - conducting on-the-job training/assessments of the type of work being assessed
  - being an active member of a relevant professional body and participating in activities relevant to the assessment of this type of work.

Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=9fc2cf53-e570-4e9f-ad6a-b228ffdb6875

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PMAOPS460 Monitor and operate tailings management facilities

Modification History

Release 1. Supersedes and is equivalent to PMAOPS460A Monitor and operate tailings management facilities

Application

This unit of competency covers the skills and knowledge required to monitor and operate a tailings disposal site.

This unit of competency applies to environmental officers, operators or those in similar roles who are required to apply in-depth knowledge to identify risks (business and environmental), operate equipment to deposit tailings in the tailings management facility (TMF), take measurements and make observations on the integrity of the facility, and take actions to prevent or ameliorate adverse environmental outcomes from the tailings management facility.

This unit of competency applies to early stage metal beneficiation processes, typically associated with aluminium, iron, gold, copper, tin, silver, lead and zinc. The TMF will have deposited material suspended in varying levels of water ranging from slurry (e.g. ‘red mud’), through high slump pastes (e.g. filter cake) to low slump pastes; the focus being sub-aerial deposition (not subaqueous or sea deposition).

However, with appropriate contextualisation the unit of competency may be applied to other types of waste deposited in a TMF, including overburden, slag or other solid waste products from later metalliferous or other processes.

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

Pre-requisite Unit

Nil

Competency Field

Operations

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Unit Sector

Elements and Performance Criteria

Elements describe the essential outcomes.		Performance criteria describe the performance needed to demonstrate achievement of the element.	
1	**Prepare for work**	1.1	Receive and give shift handover
		1.2	Identify work requirements.
		1.3	Identify and control work health and safety (WHS) hazards and identify risks to the environment
		1.4	Coordinate with appropriate personnel
		1.5	Check for recent work undertaken on TMF
		1.6	Note any outstanding/incomplete work
		1.7	Check operational status of TMF and ancillary equipment
		1.8	Coordinate with appropriate personnel, including facility managers and team members
2	**Operate equipment for tailings deposition**	2.1	Access and interpret process waste/tailings management plan and comply with documented processes
		2.2	Identify the type of facility equipment and assess the appropriateness of the equipment given the tailings physical characteristics
		2.3	Measure and report on rate of flow, tailings characteristics and deposition outcomes, as required
		2.4	Set plant to deliver tailings to appropriate location of discharge point according to tailings management plan
		2.5	Complete routine checks, logs and paperwork, taking action on unexpected readings and trends
		2.6	Discharge tailings, as appropriate, based on set rotation sequence for discharges (‘paddocks’) and duration of deposition

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3	**Monitor and control TMF in accordance with procedures**	3.1	Carry out routine plant and facility inspections
		3.2	Check flora and fauna near TMF
		3.3	Check for indications of problems with TMF containment/wall
		3.4	Monitor indicators of location of phreatic zone
		3.5	Check beaching and decant water draw off locations
		3.6	Collect samples and conduct and analyse tests
		3.7	Record observations
		3.8	Compare operational performance against standards established in the tailings management plan
		3.9	Adjust spigots (feed) and decant location (withdrawal) to optimise operation of TMF
		3.10	Report operational condition of the tailings management facility
4	**Recognise problems and take action in accordance with procedures**	4.1	Recognise developing situations which may require action
		4.2	Use water balance principles to determine adequacy of TFM capacity
		4.3	Adjust inflows and outflows (e.g. decant rate and tailings inflow) to respond to potential water imbalance especially overflows
		4.4	Identify and respond to problems arising from dust generated in TMF
		4.5	Report any issues identified with the integrity of the equipment delivering tailings to the TMF
		4.6	Apply the requirements of the emergency management plan in case of significant breaches of TMF integrity (for instance a breach of dam wall).
5	**Isolate and**	5.1	Complete any required pre-start checks

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de-isolate facility	5.2	Start up/shut down TMF plant and equipment according to their type and duty in liaison with other personnel
	5.3	Start up/shut down/changeover component plant items which are part of the TMF according to their type and duty in liaison with other personnel
	5.4	Isolate entire TMF and/or any component plant item
	5.5	Make safe for required work
	5.6	Check TMF/plant item is ready to be returned to service
	5.7	De-isolate and prepare TMF plant unit/plant item for return to service

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

All operations to which this unit applies are subject to stringent health, safety and environment (HSE) requirements, which may be imposed

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through state/territory or federal legislation, and these must not be compromised at any time. Where there is an apparent conflict between performance criteria and HSE requirements, the HSE requirements take precedence.

Hazards

Hazards include one or more of the following:

- drowning
- breach of TMF containment
- structural collapse
- equipment failures
- industrial (machinery, equipment and product)
- hazardous products and materials
- unauthorised personnel
- slippery surfaces, spills or leaks
- extreme weather
- other hazards that might arise

Procedures

All operations must be performed in accordance with relevant procedures.

Procedures are written, verbal, visual, computer-based or in some other form, 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 are predictable problems with known solutions and include one or more of the following:

- rupture of the tailings slurry delivery pipeline or decant water return pipeline
- rainfall induced erosion of the tailings facility containment wall or water imbalance
- geotechnical failure/excessive deformation of containment wall
- overfilling with tailings beyond management facility capacity, especially the result of unpredicted tailings production or storm event
- seepage of hazardous materials through the dam wall or through the foundation into the groundwater

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- migration of the phreatic zone so as to emerge from the face of the dam wall
- dust emissions especially of toxic materials
- uncontained floodwater in high rainfall areas

Non-routine problems

Non-routine problems are unexpected problems, or variations of previous problems and must be resolved by applying operational knowledge to develop new solutions, either individually or in collaboration with relevant experts, to:

- determine problems needing action
- determine possible fault causes
- develop solutions to problems which do not have a known solution
- follow through items initiated until final resolution has occurred
- report problems outside area of responsibility to designated person

Operational knowledge includes one or more of the following:

- procedures
- training
- technical information, such as journals and engineering specifications
- remembered experience
- relevant knowledge obtained from appropriate people

Logs and reports

Logs and reports include one or more of the following:

- paper or electronic-based logs and reports
- verbal/radio reports
- reporting items found which require action

Action

Action in accordance with procedures includes one or more of the following:

- positioning of the decant pond, damp or seepage at the dam wall, status of leak detection systems, any unusual vegetation or wildlife occurrences, tailings surface status, and integrity of the dam wall
- recording piezometer readings on water pressure, groundwater quality, seepage and leakage rates through notch weirs, settlement and displacement survey measurements of dam walls
- calculating water balance based on measures of inflow (with tailings, rainfall, catchment run-off, and so on), and storage and outflow (seepage, water reclaim, evaporation, and so on)
- responding to dust issues by spraying with chemical dust suppressants,

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covering the tailings with gravel, setting up silt trap fences or changing the tailings water ratio to maximise the wetted surface
- determining problems needing action
- accessing and applying relevant technical and plant data
- applying appropriate problem-solving techniques to determine possible fault causes
- rectifying problem using appropriate solution within area of responsibility
- following through items initiated until final resolution has occurred
- reporting problems outside area of responsibility/ability to designated person

Tailings/waste characteristics

Tailings/waste characteristics include the following:

- mineralogy: residual resource potential, and plant nutrients
- chemical reactivity: toxicity, leachate potential, acid producing potential, spontaneous combustion, cementation/hydration and weathering
- physical characteristics: particle size distribution, particle density compressibility, shear strength, liquefaction potential, erodibility and dusting potential
- placement characteristics: placed dry density, particle sorting, permeability, bearing capacity and initial placement density
- handling characteristics: solids content of slurries, trafficability during placement, flocculation/settling time and abrasiveness.

Tailings disposal strategy

Tailings disposal strategy includes one or more of the following:

- use/operating of equipment, such as pipes, pumps, conveyor belts, pipeline delivering tailings to management facility (leaks, blockages) and associated equipment (for instance centrifugal or positive displacement pumps)
- the location of discharge points
- the rotation sequence for discharges
- the duration of deposition in an area
- the location of settling ponds and decant facilities
- the location and timing of intermediate paddock bunding
- the likely landform created by the deposition processes at stages throughout operations up to and including final landform
- flowable volumes and potential flow paths
- operational maintenance requirements (e.g. dust suppression, fauna exclusion and drainage)

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Work requirements

Work requirements will be identified from one or more of the following:

- briefings
- handovers
- orders
- compliance documentation
- product specifications
- nature and scope of tasks
- achievement targets
- operational conditions
- lighting conditions
- plant or equipment defects
- hazards and potential hazards
- coordination requirements or issues

Unit Mapping Information

Release 1. Supersedes and is equivalent to PMAOPS460A Monitor and operate tailings management facilities

Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=9fc2cf53-e570-4e9f-ad6a-b228ffdb6875

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Assessment Requirements for PMAOPS460 Monitor and operate tailings management facilities

Modification History

Release 1. Supersedes and is equivalent to PMAOPS460A Monitor and operate tailings management facilities

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 the ability to:

- conduct checks/tests to measure tailings management facility (TMF) performance, including water quality, dam wall movement, water pressure and water flow
- interpret outcome measures from tests performed
- identify early warning signs of equipment/processes needing attention or with potential problems
- implement emergency management plan
- identify environmental risks and take appropriate action
- operate and monitor deposition and decant equipment.

Knowledge Evidence

Evidence must be provided that demonstrates knowledge of:

- types and characteristics of site-specific tailings
- design of tailings management facilities and impact on environmental risk
- methods of tailings disposal and deposition and associated equipment
- environmental risk and environmental management
- water balance and related issues
- principles of operation of pumps under conditions of different tailings consistency and water percentage
- principles of operation of conveyor belts under conditions of different tailings consistency and water percentage
- process parameters and limits of tailings disposal plant (e.g. pressure, flow and pH)
- typical issues causing problems (plant/equipment, process, environmental) and the resolution of those problems
- relevant environmental and heritage requirements
- hierarchy of control
- hazards that may arise in the job/work environment, and:
  - their possible causes
  - potential consequences
  - appropriate risk controls.

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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 industrial type TMF allowing operation and checking
  - may use industry-based simulation for 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.
- Assessors must satisfy the assessor competency requirements that are in place at the time of the assessment as set by the VET regulator.

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- In addition, the assessor or anyone acting in subject matter expert role in assessment must demonstrate both technical competency and currency. If the assessor cannot demonstrate technical competency and currency they must assess with a subject matter expert who does meet these requirements.
- Technical competence can be demonstrated through one or more of:
  - relevant VET or other qualification/Statement of Attainment
  - appropriate workplace experience undertaking the type of work being assessed under routine and non-routine conditions
  - appropriate workplace experience supervising/evaluating the type of work being assessed under routine and non-routine conditions
- Currency can be demonstrated through one or more of:
  - being currently employed undertaking the type of work being assessed
  - being employed by the organisation undertaking the type of work being assessed and having maintained currency in accordance with that organisation's policies and procedures
  - having consulted/had contact with an organisation undertaking the type of work being assessed within the last twelve months, the consultation/contact being related to assessment
  - conducting on-the-job training/assessments of the type of work being assessed
  - being an active member of a relevant professional body and participating in activities relevant to the assessment of this type of work.

Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=9fc2cf53-e570-4e9f-ad6a-b228ffdb6875

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PMAOPS500 Optimise production systems

Modification History

Release 1. Supersedes and is equivalent to PMAOPS500A Optimise production systems

Application

This unit of competency covers the skills and knowledge required to analyse and optimise complex operating production systems. It applies to discrete projects which aim to resolve identified production problems, such as a need for improved quality, reduced variability, higher yields, less waste or better control.

This unit of competency is applicable to the optimisation of an entire plant, or for large sites, an entire process system within the site.

This unit of competency applies to senior technicians or those in similar roles who are required to apply in-depth knowledge of process and plant operations and problem solving in order to gather historical plant operating or product quality data, review the data for trends or dependencies, investigate cause and effect responses, develop a solution/improvement and take action to ensure that the improvement is implemented and effective.

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 process**	1.1	Review process or plant performance to determine likely

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	or system for review		areas of improvement
		1.2	Gather data on the process or system design
		1.3	Design the data collection system for the required data
2	**Collect and analyse data**	2.1	Collect or review available data from the process or plant
		2.2	Analyse the data for trends or dependencies
		2.3	Postulate possible cause and effect scenarios
3	**Develop tests or trials**	3.1	Propose controlled tests or trials to review the plant or process patterns
		3.2	Discuss possible solutions to cause with relevant people
		3.3	Arrange for required tests or controls to be undertaken in appropriate timeframe
		3.4	Collect further data from tests or trials
		3.5	Review plant or process data and compare with original data
		3.6	Prepare further tests or trials as required, or until possible solutions are developed
4	**Develop improvement solution**	4.1	Agree required improvement solution with appropriate people
		4.2	Arrange for required improvement solution to be undertaken in appropriate timeframe
		4.3	Follow items initiated through until final resolution has occurred
		4.4	Check effectiveness of solution and take action
		4.5	Complete reports to procedure

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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

All operations to which this unit applies are subject to stringent health, safety and environment (HSE) requirements, which may be imposed through state/territory or federal legislation, and these must not be compromised at any time. Where there is an apparent conflict between performance criteria and HSE requirements, the HSE requirements take precedence.

Hazards

Hazards include one or more of the following:

- 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
- plant services (steam, condensate and cooling water)
- limited head spaces or overhangs
- working at heights, in restricted or confined spaces, or in environments

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subjected to heat, 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

Procedures All operations must be performed in accordance with relevant procedures.

Procedures are written, verbal, visual, computer-based or in some other form, 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

Unit Mapping Information

Release 1. Supersedes and is equivalent to PMAOPS500A Optimise production systems

Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=9fc2cf53-e570-4e9f-ad6a-b228ffdb6875

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Assessment Requirements for PMAOPS500 Optimise production systems

Modification History

Release 1. Supersedes and is equivalent to PMAOPS500A Optimise production 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 include the ability to:

- analyse and interpret schematics, technical information, performance data and operational practices
- design and apply data collection system
- apply problem isolation and problem-solving techniques to multi-variable processes
- develop solutions/improvements
- evaluate effectiveness of solutions/improvements
- communicate and negotiate effectively with internal and external stakeholders
- complete written/electronic records
- perform complex calculations.

Knowledge Evidence

Evidence must be provided that demonstrates knowledge of:

- plant equipment, its characteristics and limitations
- process chemistry, physics and biochemistry as relevant (e.g. to the extent of writing chemical equations and identifying factors controlling reaction rate and yield or equivalent, or determining mass or heat transfer rates for a process)
- problem isolation techniques
- problem analysis techniques
- systems operating parameters, system integrity limits, product specifications and tolerances
- principles of operation of plant/equipment
- hierarchy of control
- hazards that may arise in the job/work environment, and:
  - their possible causes
  - potential consequences
  - appropriate risk controls.
  -

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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 is best done from a report and/or folio of evidence drawn from:
  - a single project which provides sufficient evidence of the requirements of all the elements and performance criteria
  - multiple smaller projects which together provide sufficient evidence of the requirements of all the elements and performance criteria.
- A third-party report, or similar, may be needed to testify to the work done by the individual, particularly when the project has been done as part of a project team.
- Assessment should use a real project in an operational workplace. Where this is not possible or practical, assessment must occur using 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.
- Knowledge evidence may be collected concurrently with performance evidence 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.
- Assessors must satisfy the assessor competency requirements that are in place at the time of the assessment as set by the VET regulator.
- In addition, the assessor or anyone acting in subject matter expert role in assessment must demonstrate both technical competency and currency. If the assessor cannot demonstrate technical competency and currency they must assess with a subject matter expert who does meet these requirements.
- Technical competence can be demonstrated through one or more of:
  - relevant VET or other qualification/Statement of Attainment
  - appropriate workplace experience undertaking the type of work being assessed under routine and non-routine conditions
  - appropriate workplace experience supervising/evaluating the type of work being assessed under routine and non-routine conditions
- Currency can be demonstrated through one or more of:
  - being currently employed undertaking the type of work being assessed

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- being employed by the organisation undertaking the type of work being assessed and having maintained currency in accordance with that organisation's policies and procedures
- having consulted/had contact with an organisation undertaking the type of work being assessed within the last twelve months, the consultation/contact being related to assessment
- conducting on-the-job training/assessments of the type of work being assessed
- being an active member of a relevant professional body and participating in activities relevant to the assessment of this type of work.
-

Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=9fc2cf53-e570-4e9f-ad6a-b228ffdb6875

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PMASUP410 Develop plant documentation

Modification History

Release 1. Supersedes and is equivalent to PMASUP410B Develop plant documentation

Application

This unit of competency covers the skills and knowledge required to develop, establish and evaluate plant documentation in response to identified information requirements. Examples of information requirements include workplace documents for the introduction of new systems, processes, equipment and record keeping requirements.

This unit of competency applies to senior technicians, team leaders and supervisors, or those in similar roles who are required to apply in-depth knowledge of process and plant to in order to investigate the need for new plant documentation, determine operating principles and best practice in consultation with others, draft and validate the plant documentation, and communicate and distribute the new/amended documentation.

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 information need/deficiency**	1.1 Identify the need for documentation in accordance with company requirements
		1.2 Evaluate current documentation where existent

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		1.3	Define information need/deficiency
		1.4	Discuss information requirements with appropriate personnel
2	**Develop plant documentation**	2.1	Specify information need and set/prioritise objectives
		2.2	Analyse existing documentation/records in accordance with specified requirements
		2.3	Source information and determine operating principles, best practice and other content as required.
		2.4	Develop/amend documentation as a draft in accordance with specifications to standard format
		2.5	Issue documentation to appropriate personnel for review
		2.6	Edit documentation and amend in accordance with review requirements
		2.7	Complete documentation to satisfy the initial identified need/deficiency
3	**Communicate changes to plant documentation**	3.1	Explain and communicate documentation to all relevant personnel
		3.2	Distribute documentation to all appropriate personnel
		3.3	Evaluate implementation of documentation
		3.4	Amend documents, if required

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.

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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, 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

Plant documentation

Plant documentation to be developed/amended includes one or more of the following:

- operating procedures
- work instructions
- incident procedures
- operating manuals
- quality manuals and procedures
- training program contents/materials

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Unit Mapping Information

Release 1. Supersedes and is equivalent to PMASUP410B Develop plant documentation

Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=9fc2cf53-e570-4e9f-ad6a-b228ffdb6875

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Assessment Requirements for PMASUP410 Develop plant documentation

Modification History

Release 1. Supersedes and is equivalent to PMASUP410B Develop plant documentation

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 the ability to:

- review and interpret a range of relevant sources of information and select relevant content
- communicate and consult effectively with all stakeholders
- clearly convey complex/technical information in writing
- use language, structures and formats that are appropriate to information needs, the reader and organisation requirements.

Knowledge Evidence

Evidence must be provided that demonstrates knowledge of:

- principles of operation of plant/equipment
- process-specific science (e.g. physics, chemistry and biochemistry) and mathematics
- organisation procedures, including those covering:
  - information systems
  - data management
  - quality
  - safety, emergency and hazard control
  - policy/procedure development
  - document control and approvals
  - style guides and standards for documentation
  - use of internet
  - relevant standard operating procedures
- standard codes of practice relevant to developing plant documentation
- sources of information, including:
  - manufacturing specifications
  - product specifications
  - company policies and procedures
  - customer requirements
  - industry/work place codes of practice
  - state/territory work health and safety (WHS) legislation and regulations

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- ISO and other industry standards and regulations
- industry associations, networks and professional bodies.

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 developing and/or amending at least two (2) types of plant documentation, 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 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.

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- Assessors must satisfy the assessor competency requirements that are in place at the time of the assessment as set by the VET regulator.
- In addition, the assessor or anyone acting in subject matter expert role in assessment must demonstrate both technical competency and currency. If the assessor cannot demonstrate technical competency and currency they must assess with a subject matter expert who does meet these requirements.
- Technical competence can be demonstrated through one or more of:
  - relevant VET or other qualification/Statement of Attainment
  - appropriate workplace experience undertaking the type of work being assessed under routine and non-routine conditions
  - appropriate workplace experience supervising/evaluating the type of work being assessed under routine and non-routine conditions
- Currency can be demonstrated through one or more of:
  - being currently employed undertaking the type of work being assessed
  - being employed by the organisation undertaking the type of work being assessed and having maintained currency in accordance with that organisation's policies and procedures
  - having consulted/had contact with an organisation undertaking the type of work being assessed within the last twelve months, the consultation/contact being related to assessment
  - conducting on-the-job training/assessments of the type of work being assessed
  - being an active member of a relevant professional body and participating in activities relevant to the assessment of this type of work.

Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=9fc2cf53-e570-4e9f-ad6a-b228ffdb6875

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PMASUP420 Minimise environmental impact of process

Modification History

Release 1. Supersedes and is equivalent to PMASUP420B Minimise environmental impact of process

Application

This unit of competency covers the skills and knowledge required to minimise the environmental impact of a plant and/or process. It applies to all resources used and products made by the plant, capital projects and improvements brought about by changes in work practices and procedures.

This unit of competency applies to experienced operators or those in similar roles who are required to apply in-depth knowledge of process and plant to in order to develop practices or procedures for conserving resources and minimising pollution and waste that will deliver the most benefits.

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	**Develop resource conservation practices and/or procedures**	1.1	Identify the nature of resources used in the plant/process
		1.2	Identify the primary source of these resources
		1.3	Determine the impact of the depletion of these resources

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			on the environment and society
		1.4	Determine which resources will yield a greater benefit from their conservation
		1.5	Develop methods to reduce the consumption of these resources
		1.6	Complete required documentation to implement change
2	**Develop pollution minimisation practices and/or procedures**	2.1	Identify the nature of pollutants produced by the plant/process
		2.2	Determine the sources of these pollutants within the plant/process
		2.3	Determine the impact of these pollutants on the environment and society
		2.4	Determine which pollutant will yield a greater benefit from their reduction
		2.5	Develop methods to reduce the production of this pollutant
		2.6	Complete required documentation to implement change
3	**Develop waste minimisation practices and/or procedures**	3.1	Identify the nature of wastes produced by the plant/process
		3.2	Determine the sources of these wastes within the plant/process
		3.3	Identify the impact of these wastes on the environment and society
		3.4	Determine which wastes will yield a greater benefit from their reduction
		3.5	Develop methods to reduce the production of this waste
		3.6	Complete required documentation to implement change

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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

All operations to which this unit applies are subject to stringent health, safety and environment (HSE) requirements, which may be imposed through state/territory or federal legislation, and these must not be compromised at any time. Where there is an apparent conflict between performance criteria and HSE requirements, the HSE requirements take precedence.

Procedures

All operations must be performed in accordance with relevant procedures.

Procedures are written, verbal, visual, computer-based or in some other form, 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.

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Unit Mapping Information

Release 1. Supersedes and is equivalent to PMASUP420B Minimise environmental impact of process

Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=9fc2cf53-e570-4e9f-ad6a-b228ffdb6875

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Assessment Requirements for PMASUP420 Minimise environmental impact of process

Modification History

Release 1. Supersedes and is equivalent to PMASUP420B Minimise environmental impact of process

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 the ability to:

- examine plant records, data and operating procedures and practices to determine options for:
  - maximisation of product yield from raw materials
  - reduction in volume of pollutants made and/or reduction in concentration/intensity of pollutants made and/or reduction in emissions
  - minimisation of wastes
- determine relative benefits of the options and develop processes/procedures to achieve preferred options
- document preferred options and complete written and/or electronic records.

Knowledge Evidence

Evidence must be provided that demonstrates knowledge of:

- resources used by the plant and the impact on the environment and society of using resources
- nature and source of pollutants and waste materials produced by the plant
- nature and severity of the effect the pollutants and waste materials can have on the environment and society
- types of local conditions that can make environmental threats more ‘sensitive’
- pathways of entry to the environment from the plant
- process parameters and limits
- product specifications and tolerances
- principles of operation of plant/equipment
- science (e.g. physics, chemistry and biochemistry) relevant to the process, its materials and eco impacts
- regulatory framework
- organisation procedures, including those covering:
  - environmental management
  - safety, emergency and hazard control
  - procurement.

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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 is best done from a report and/or folio of evidence drawn from:
  - a single project which provides sufficient evidence of the requirements of all the elements and performance criteria
  - multiple smaller projects which together provide sufficient evidence of the requirements of all the elements and performance criteria.
- A third-party report, or similar, may be needed to testify to the work done by the individual, particularly when the project has been done as part of a project team.
- Assessment should use a real project in an operational workplace. Where this is not possible or practical, assessment must occur using 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.
- Knowledge evidence may be collected concurrently with performance evidence 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.
- Assessors must satisfy the assessor competency requirements that are in place at the time of the assessment as set by the VET regulator.
- In addition, the assessor or anyone acting in subject matter expert role in assessment must demonstrate both technical competency and currency. If the assessor cannot demonstrate technical competency and currency they must assess with a subject matter expert who does meet these requirements.
- Technical competence can be demonstrated through one or more of:
  - relevant VET or other qualification/Statement of Attainment
  - appropriate workplace experience undertaking the type of work being assessed under routine and non-routine conditions
  - appropriate workplace experience supervising/evaluating the type of work being assessed under routine and non-routine conditions
- Currency can be demonstrated through one or more of:
  - being currently employed undertaking the type of work being assessed

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- being employed by the organisation undertaking the type of work being assessed and having maintained currency in accordance with that organisation's policies and procedures
- having consulted/had contact with an organisation undertaking the type of work being assessed within the last twelve months, the consultation/contact being related to assessment
- conducting on-the-job training/assessments of the type of work being assessed
- being an active member of a relevant professional body and participating in activities relevant to the assessment of this type of work.

Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=9fc2cf53-e570-4e9f-ad6a-b228ffdb6875

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PMASUP432 Coordinate pipeline projects

Modification History

Release 1. Supersedes and is equivalent to PMASUP432B Coordinate pipeline projects

Application

This unit of competency covers the skills and knowledge required to scope and coordinate pipeline projects. It applies to pipeline projects, such as:

- installation of new plant piping and equipment
- pipeline repairs and modifications (e.g. hot tap and stoppling operations, welding and cutting operations)
- upgrades of existing plant, piping and equipment
- commissioning of pipelines and facilities
- construction and upgrade of pipeline easements.

This unit of competency applies to operators who are required to prepare scoping documents, specifications and/or tenders; coordinate the project through the construction and commissioning phases; prepare reports; liaise with stakeholders; and ensure that the project conforms to all safety requirements.

This unit of competency does not require the operation of a central control panel.

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

Pre-requisite Unit

MSMPER300 Issue work permits

Competency Field

Support

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Unit Sector

Elements and Performance Criteria

Elements describe the essential outcomes.		Performance criteria describe the performance needed to demonstrate achievement of the element.	
1	**Prepare project specification documents**	1.1	Analyse the proposed project to establish contract specifications
		1.2	Facilitate a documented hazard and risk assessment on the proposed project, identifying all potential hazards and risks
		1.3	Draft specification documents stating the required work activity and health, safety and environmental requirements
		1.4	Seek tenders for the specified works, review according to the relevant company procedure and appoint a winning tenderer
2	**Prepare project schedule and documentation**	2.1	Draft a project schedule to establish project timeframe, work activities and procurement of materials
		2.2	Apply the job safety analysis (JSA) process to specific project activities reflecting any health, safety and environmental (HSE) issues identified in the project risk and hazard assessment
		2.3	Write procedures and work instructions for project work activities from the outcome of the JSA process
3	**Facilitate induction training for project**	3.1	Discuss company/site-specific procedures and HSE requirements with contractors/employees carrying out the specified works
		3.2	Review all persons who are inducted to ensure they understand the company/site procedures and HSE requirements
		3.3	Inspect all equipment and machinery utilised to carry out the works to ensure these comply with company/site requirements

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4	**Monitor progress of project**	4.1	Purchase materials required for fabrication and installation on the project and inspect to ensure all items meet project specifications
		4.2	Monitor project works to ensure activities are carried out to project specification and minimal impact occurs on existing operations and environment
		4.3	Issue permits to work where project activities impact on existing pipeline operations
		4.4	Amend and/or modify original specifications and communicate to all parties involved according to the relevant company procedure
		4.5	Produce project reports updating project schedule progress, activities and HSE issues, and discuss with all parties involved.
		4.6	Draft operations manuals and compile vendor data manuals to assist in the operation of the equipment/facility after project completion
5	**Complete and commission project**	5.1	Commission the project to ensure all work carried out meets project specifications and operational requirements
		5.2	Restore the project site to meet environmental, heritage and operational requirements
		5.3	Cancel permits to work and sign-off at completion of works
		5.4	Check all documentation, records and drawings pertaining to the project, verify for accuracy and hand over to the relevant operational department

Foundation Skills

This section describes those language, literacy, numeracy and employment skills that are essential to performance.

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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:

- *AS 2885 (Set) Pipelines - Gas and liquid petroleum*
- *AS 4041-2006 Pressure piping*
- *AS/NZS 3000:2007 Electrical installations (known as the Australian/New Zealand Wiring Rules)*
- 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
- requirements set by authorities, such as:
  - Environmental Protection Authority (EPA)
  - Department of Primary Industry and Energy (DOPIE)
  - Departments of Minerals and Energy State and Territory
  - Worksafe Australia.

All operations to which this unit applies are subject to stringent health, safety and environment (HSE) requirements, which may be imposed through state/territory or federal legislation, and these must not be compromised at any time. Where there is an apparent conflict between performance criteria and HSE requirements, the HSE requirements take precedence.

Hazards

Hazards include one or more of the following:

- electricity
- gas
- gases and liquids under pressure
- structural hazards
- structural collapse
- equipment failures
- industrial (machinery, equipment and product)

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- equipment or product mass
- noise, rotational equipment or vibration
- plant services (steam, condensate and cooling water)
- limited head spaces or overhangs
- working at heights, in restricted or confined spaces, or in environments subjected to heat, noise, dusts or vapours
- 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

Procedures

All operations must be performed in accordance with relevant procedures.

Procedures are written, verbal, visual, computer-based or in some other form, 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

Sources of information

Sources of information include, as appropriate to the project:

- regulatory framework
- procedures
- internal stakeholders
- pipeline alignment drawings
- process and instrument drawings
- workshop fabrication drawings

Inspection and testing

Inspection and testing techniques include, as appropriate to the project:

- hydrostatic testing
- magnetic particle inspection

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- radiography
- ultrasonic inspection
- dye penetrant inspection

Unit Mapping Information

Release 1. Supersedes and is equivalent to PMASUP432B Coordinate pipeline projects

Links

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Assessment Requirements for PMASUP432 Coordinate pipeline projects

Modification History

Release 1. Supersedes and is equivalent to PMASUP432B Coordinate pipeline projects

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 the ability to:

- interpret information from a range of sources to determine project specifications, including scope of health, safety and environmental (HSE) requirements, schedules and resource requirements
- coordinate and monitor project activities
- identify hazards and risks and apply risk control procedures
- convey information relevant to the operation clearly and effectively to contractors, employees and other stakeholders
- complete written and/or electronic documentation for the project, including:
  - budget updates
  - project schedule progress report
  - materials and spares listings
  - safety statistics report
  - hazard and incident reports
  - procedures/work instructions
- interpret plans and drawings.

Knowledge Evidence

Evidence must be provided that demonstrates knowledge of:

- architecture of pipeline systems and facilities
- pipeline operations knowledge
- pipeline system operating parameters
- quality assurance systems and plans
- emergency response plans and procedures
- preparation and submission of safety cases
- pipeline licenses
- environmental statutes and standards
- project contract and budget management techniques
- regulatory framework
- organisation procedures, including those covering:

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    - safety, emergency and hazard control
    - policy/procedure development
    - permit system
    - procurement
    - project management
- duty of care obligations
- hierarchy of control.

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 is best done from a report and/or folio of evidence drawn from:
    - a single project which provides sufficient evidence of the requirements of all the elements and performance criteria
    - multiple smaller projects which together provide sufficient evidence of the requirements of all the elements and performance criteria.
- A third-party report, or similar, may be needed to testify to the work done by the individual, particularly when the project has been done as part of a project team.
- Assessment should use a real project in an operational workplace. Where this is not possible or practical, assessment must occur using 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.
- Knowledge evidence may be collected concurrently with performance evidence 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.
- Assessors must satisfy the assessor competency requirements that are in place at the time of the assessment as set by the VET regulator.
- In addition, the assessor or anyone acting in subject matter expert role in assessment must demonstrate both technical competency and currency. If the assessor cannot demonstrate technical competency and currency they must assess with a subject matter expert who does meet these requirements.
- Technical competence can be demonstrated through one or more of:
    - relevant VET or other qualification/Statement of Attainment

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  - appropriate workplace experience undertaking the type of work being assessed under routine and non-routine conditions
  - appropriate workplace experience supervising/evaluating the type of work being assessed under routine and non-routine conditions
- Currency can be demonstrated through one or more of:
  - being currently employed undertaking the type of work being assessed
  - being employed by the organisation undertaking the type of work being assessed and having maintained currency in accordance with that organisation's policies and procedures
  - having consulted/had contact with an organisation undertaking the type of work being assessed within the last twelve months, the consultation/contact being related to assessment
  - conducting on-the-job training/assessments of the type of work being assessed
  - being an active member of a relevant professional body and participating in activities relevant to the assessment of this type of work.

Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=9fc2cf53-e570-4e9f-ad6a-b228ffdb6875

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PMASUP440 Commission/recommission plant

Modification History

Release 1. Supersedes and is equivalent to PMASUP440B Commission/recommission plant

Application

This unit of competency covers the skills and knowledge required to commission new plant/pipeline or recommission significantly modified plant/pipeline. It applies to plant/pipeline, such as on or offshore plant, wellheads, transmission pipelines or similar.

Commissioning refers to the start-up of a new plant or plant unit and the associated equipment for the first time. Recommissioning refers to the start-up of an existing plant following major modifications, rebuild or reconfiguration.

This unit of competency applies to senior technicians and those in similar roles who are required to apply in-depth knowledge of process and plant in order to ensure design of new/modified plant meets safety and operability requirements, plan and coordinate commissioning/recommissioning, and complete required documentation. The technician would not normally have a 'hands on' operating role for all items of equipment, but may have a 'hands on' role for major items of equipment; however this is not required as part of this competency.

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.

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1	**Contribute to/review the design of plant/ equipment**	1.1	Apply process understanding to the design process
		1.2	Identify the role and purpose of the plant and equipment
		1.3	Ensure design meets the identified need
		1.4	Identify process conditions and apply to hazard and operability studies (HAZOP)
		1.5	Undertake investigations following hazard studies
		1.6	Record and report findings
2	**Take part in commissioning planning**	2.1	Ensure the work is coordinated effectively with others involved on the work site
		2.2	Obtain materials necessary to complete the work and check against job requirements
		2.3	Obtain tools and equipment necessary to carry out the work and check for correct operation and safety
		2.4	Prepare plans to ensure that procedures are performed in the correct sequence
		2.5	Obtain approvals, where necessary, from appropriate authorities
3	**Participate in acceptance of plant/ equipment**	3.1	Undertake pre-commissioning activities
		3.2	Complete safety acceptance documentation
		3.3	Identify, record and report problems or non-conformance
		3.4	Conduct trials/test runs
		3.5	Record and report performance data
4	**Commission system**	4.1	Bring the plant/plant systems/pipeline online
		4.2	Make and report adjustments
		4.3	Prepare reports in accordance with legislative and

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			company requirements to maintain the historical record
5	**Evaluate results and identify modifications**	5.1	Identify modifications and improvements required
		5.2	Check specifications, procedures and training material match the final system/procedures
		5.3	Complete documentation and report to appropriate 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.

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

All operations to which this unit applies are subject to stringent health, safety and environment (HSE) requirements, which may be imposed through state/territory or federal legislation, and these must not be compromised at any time. Where there is an apparent conflict between performance criteria and HSE requirements, the HSE requirements take precedence.

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Hazards

Hazards include one or more of the following:

- 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
- plant services (steam, condensate and cooling water)
- limited head spaces or overhangs
- working at heights, in restricted or confined spaces, or in environments subjected to heat, noise, dusts or vapours
- 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

Procedures

All operations must be performed in accordance with relevant procedures.

Procedures are written, verbal, visual, computer-based or in some other form, 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

Documentation

Documentation includes one or more of the following:

- operating procedures
- work health and safety (WHS) and environmental legislative

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requirements
- manufacturer specifications
- appropriate authority approvals (e.g. local councils, road authority, sewerage, stormwater, electricity, water and telephone)
- quality assurance inspection and test reports

Plant/pipeline systems

This unit of competency includes all items of equipment and unit operations which form part of the pipeline system including, as relevant to a particular plant/pipeline:

- pipes
- valves
- operating units
- electrical and electronic components
- programmable logic controllers (PLCs)/distributed control system (DCS) or other plant controls
- cathodic protection (CP)
- pressure/flow/temperature, regulation and meters

Tools, materials and equipment

Tools, materials and equipment include one or more of the following:

- hand tools,
- power operated tools
- plant
- emergency equipment
- electrical and electronic test equipment
- gas detectors
- air compressor
- water pump

Unit Mapping Information

Release 1. Supersedes and is equivalent to PMASUP440B Commission/recommission plant

Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=9fc2cf53-e570-4e9f-ad6a-b228ffdb6875

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Assessment Requirements for PMASUP440 Commission/recommission plant

Modification History

Release 1. Supersedes and is equivalent to PMASUP440B Commission/recommission plant

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 the ability to:
- plan, coordinate and monitor pre-commissioning, commissioning/recommissioning activities
- arrange resources as required
- communicate effectively with stakeholders, including manufacturers, engineering personnel, designers, contractors and maintenance and other company personnel
- participate in and/or review hazard and operability studies (HAZOP), hazard analysis studies (HAZAN) or similar techniques
- participate in and/or review design or modification plans
- identify hazards and risks and apply risk control procedures

complete written/electronic documentation.

Knowledge Evidence

- Evidence must be provided that demonstrates knowledge of:
- all items on a schematic of the system and functions of each
- principles of operation of items of equipment in the system
- principles of operation of instrumentation
- principles of basic control systems
- process control philosophies and strategies
- interactions between plant items/processes
- systems' operating parameters
- system integrity limits
- product tolerances, limitations and specifications
- types and purpose of typical pre-commissioning activities, including:
  - checking plant is built to design
  - ensuring plant is safe to operate
  - ensuring plant area and plant internals are clean and clear of debris
  - functional checking of equipment and ancillaries
- types and purpose of typical commissioning/recommissioning activities, including:
  - trial running of equipment
  - use of trial materials in plant

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  - safe introduction of process materials to plant
  - producing product within specification
  - bringing plant to design rates
  - solving operational problems
  - disposal of waste generated in the start-up
- science (e.g. physics, chemistry and biochemistry) relevant to process and materials
- process parameters and limits (e.g. temperature, pressure, flow and pH)
- correct methods of starting, stopping, operating and controlling plant
- routine and non-routine problems that may arise, the range of possible causes and processes to develop solutions.

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 is best done from a report and/or folio of evidence drawn from:
  - a single project which provides sufficient evidence of the requirements of all the elements and performance criteria
  - multiple smaller projects which together provide sufficient evidence of the requirements of all the elements and performance criteria.
- A third-party report, or similar, may be needed to testify to the work done by the individual, particularly when the project has been done as part of a project team.
- Assessment should use a real project in an operational workplace. Where this is not possible or practical, assessment must occur using 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.
- Knowledge evidence may be collected concurrently with performance evidence 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.
- Assessors must satisfy the assessor competency requirements that are in place at the time of the assessment as set by the VET regulator.

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- In addition, the assessor or anyone acting in subject matter expert role in assessment must demonstrate both technical competency and currency. If the assessor cannot demonstrate technical competency and currency they must assess with a subject matter expert who does meet these requirements.
- Technical competence can be demonstrated through one or more of:
  - relevant VET or other qualification/Statement of Attainment
  - appropriate workplace experience undertaking the type of work being assessed under routine and non-routine conditions
  - appropriate workplace experience supervising/evaluating the type of work being assessed under routine and non-routine conditions
- Currency can be demonstrated through one or more of:
  - being currently employed undertaking the type of work being assessed
  - being employed by the organisation undertaking the type of work being assessed and having maintained currency in accordance with that organisation's policies and procedures
  - having consulted/had contact with an organisation undertaking the type of work being assessed within the last twelve months, the consultation/contact being related to assessment
  - conducting on-the-job training/assessments of the type of work being assessed
  - being an active member of a relevant professional body and participating in activities relevant to the assessment of this type of work.

Links

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PMASUP441 Decommission plant

Modification History

Release 1. Supersedes and is equivalent to PMASUP441C Decommission plant

Application

This unit of competency covers the skills and knowledge required to decommission an existing plant/pipeline or major plant area, and its associated equipment. It applies to plant/pipeline, such as on or offshore plant, wellheads, transmission pipelines or similar.

Decommissioning refers to the removal from service of plant/pipeline and equipment and its storage, 'mothballing' or disposal.

This unit of competency applies to senior technicians and those in similar roles who are required to apply in-depth knowledge of process and plant in order to plan and supervise the systematic shutdown, cleaning out and preparation for safe 'mothballing' of all of the plant and equipment.

The technician will have detailed operational and process knowledge but is not required to demonstrate 'hands on' operation of equipment as part of this competency.

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.

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1	**Contribute to decommissioning planning**	1.1	Apply process understanding to the planning process
		1.2	Identify the role and purpose of the plant and equipment
		1.3	Ensure the work is coordinated effectively with others involved on the work site
		1.4	Identify process conditions and apply to hazard studies
		1.5	Undertake investigations following on from hazard studies
		1.6	Obtain materials necessary to complete the work and check against job requirements
		1.7	Obtain tools and equipment necessary to carry out the work and check for correct operation and safety
		1.8	Prepare plans to ensure that procedures are performed in the correct sequence
		1.9	Obtain approvals where necessary from appropriate authorities to ensure decommissioning process proceeds in accordance with the plan
		1.10	Complete all appropriate documentation
2	**Isolate and decontaminate equipment/unit according to procedures**	2.1	Interpret and apply decommissioning plan
		2.2	Identify and use appropriate safety equipment and materials
		2.3	Isolate and decontaminate equipment components
		2.4	Dispose of contaminated materials or components
		2.5	Complete required documentation
3	**Inspect, test and notify completion of work**	3.1	Select tools and equipment appropriate to the testing/inspection requirements and utilise in accordance with manufacturer specifications and legislative requirements
		3.2	Test/inspect in accordance with requirements
		3.3	Ensure compliance with work health and safety (WHS)

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	legislative requirements for risk assessment prior to disposal
3.4	Ensure any required additional work is undertaken/initiated
3.5	Notify work completion

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

All operations to which this unit applies are subject to stringent health, safety and environment (HSE) requirements, which may be imposed through state/territory or federal legislation, and these must not be compromised at any time. Where there is an apparent conflict between performance criteria and HSE requirements, the HSE requirements take precedence.

Hazards

Hazards include one or more of the following:

- electricity

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- 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
- plant services (steam, condensate and cooling water)
- limited head spaces or overhangs
- working at heights, in restricted or confined spaces, or in environments subjected to heat, noise, dusts or vapours
- 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

Procedures

All operations must be performed in accordance with relevant procedures.

Procedures are written, verbal, visual, computer-based or in some other form, 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

Documentation

Documentation includes one or more of the following:

- operating procedures
- WHS and environmental legislative requirements
- manufacturer specifications
- appropriate authority approvals (e.g. local councils, road authority, sewerage, stormwater, electricity, water and telephone)
- quality assurance inspection and test reports

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Plant/pipeline systems

This unit of competency includes all items of equipment and unit operations which form part of the pipeline system including, as relevant to a particular plant/pipeline:

- pipes
- valves
- operating units
- electrical and electronic components
- programmable logic controllers (PLCs)/distributed control systems DCS) or other plant controls
- cathodic protection (CP)
- pressure/flow/temperature, regulation and meters

Tools, materials and equipment

Tools, materials and equipment include one or more of the following:

- hand tools
- power operated tools
- plant
- emergency equipment
- electrical and electronic test equipment
- gas detectors
- air compressor
- water pump

Unit Mapping Information

Release 1. Supersedes and is equivalent to PMASUP441C Decommission plant

Links

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Assessment Requirements for PMASUP441 Decommission plant

Modification History

Release 1. Supersedes and is equivalent to PMASUP441C Decommission plant

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 the ability to:
- plan, coordinate and monitor decommissioning activities
- arrange resources as required
- document the decommissioning and recommendations for safe storage/maintenance/disposal
- communicate effectively with stakeholders, including manufacturers, engineering personnel, designers, contractors and maintenance and other company personnel
- participate in hazard and operability studies (HAZOP), hazard analysis studies (HAZAN) or similar techniques
- identify hazards and risks and apply risk control procedures

complete written/electronic documentation.

Knowledge Evidence

Evidence must be provided that demonstrates knowledge of:

- all items on a schematic of the system and functions of each
- principles of operation of items of equipment in the system
- interactions between plant items/processes
- systems' operating parameters
- system integrity limits
- procedures for typical options/processes for removal of plant and equipment from service, including:
  - 'mothballing'
  - storage
  - disassembly
  - demolition
  - decontamination of equipment
  - disposal of equipment and waste
- safe disposal methods of materials and equipment
- decontamination processes
- science (e.g. physics, chemistry and biochemistry) relevant to process and materials processed or produced

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- process parameters and limits (e.g. temperature, pressure, flow and pH)
- correct methods of starting, stopping, operating and controlling plant
- routine and non-routine problems that may arise, the range of possible causes and processes to develop solutions
- hierarchy of control.

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 is best done from a report and/or folio of evidence drawn from:
  - a single project which provides sufficient evidence of the requirements of all the elements and performance criteria
  - multiple smaller projects which together provide sufficient evidence of the requirements of all the elements and performance criteria.
- A third-party report, or similar, may be needed to testify to the work done by the individual, particularly when the project has been done as part of a project team.
- Assessment should use a real project in an operational workplace. Where this is not possible or practical, assessment must occur using 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.
- Knowledge evidence may be collected concurrently with performance evidence 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.
- Assessors must satisfy the assessor competency requirements that are in place at the time of the assessment as set by the VET regulator.
- In addition, the assessor or anyone acting in subject matter expert role in assessment must demonstrate both technical competency and currency. If the assessor cannot demonstrate technical competency and currency they must assess with a subject matter expert who does meet these requirements.
- Technical competence can be demonstrated through one or more of:
  - relevant VET or other qualification/Statement of Attainment
  - appropriate workplace experience undertaking the type of work being assessed under routine and non-routine conditions

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  - appropriate workplace experience supervising/evaluating the type of work being assessed under routine and non-routine conditions
- Currency can be demonstrated through one or more of:
  - being currently employed undertaking the type of work being assessed
  - being employed by the organisation undertaking the type of work being assessed and having maintained currency in accordance with that organisation's policies and procedures
  - having consulted/had contact with an organisation undertaking the type of work being assessed within the last twelve months, the consultation/contact being related to assessment
  - conducting on-the-job training/assessments of the type of work being assessed
  - being an active member of a relevant professional body and participating in activities relevant to the assessment of this type of work.

Links

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PMASUP444 Plan plant preparation and isolation

Modification History

Release 1. Supersedes and is equivalent to PMASUP444A Plan plant preparation and isolation

Application

This unit of competency covers the skills and knowledge required to plan and prepare for isolation of plant and its return to service. This unit of competency applies after the work scope has been agreed, but before the isolation and preparation commences.

Isolation is a process for ensuring no energy or material can enter the isolated area. Typically the isolation will occur so that the plant can be prepared for subsequent work, such as maintenance.

This unit of competency applies to senior technicians, operator/maintainers, maintenance planners, authorised permit issuers, and those in similar roles who are required to apply in-depth knowledge of process and plant in order to confirm the work to be done; plan the isolation and de-isolation strategies, preparations and sequencing; obtain authorities; liaise with stakeholders and complete documentation. The technician will have detailed operational and process knowledge but is not required to demonstrate 'hands on' operation of equipment as part of this competency. This competency may form part of their regular work role or could be a full-time role on secondment for a major shutdown.

This unit of competency applies to hazardous plant, such as a major hazard facility. However, with appropriate contextualisation it can be applied to the preparation and isolation of lower hazard plants and mobile plant.

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

Pre-requisite Unit

Nil

Competency Field

Support

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Unit Sector

Elements and Performance Criteria

Elements describe the essential outcomes.		Performance criteria describe the performance needed to demonstrate achievement of the element.	
1	**Confirm scope of work**	1.1	Examine identified work scope (e.g. what, where, who, when, why, duration and frequency)
		1.2	Confirm purpose of identified work
		1.3	Identify plant and equipment involved
		1.4	Negotiate any conflicts/inconsistencies with relevant stakeholders
		1.5	Identify possible need for temporary lifting of any isolations
2	**Develop isolation philosophy for work**	2.1	Apply relevant isolation philosophy/strategy, including type of/hierarchy of isolation and lock out/tag out
		2.2	Determine implications of isolation
		2.3	Identify physical limits of affected plant and equipment
		2.4	Check suitability and effectiveness of existing isolation procedures
		2.5	Assess possible boundaries for isolations
		2.6	Seek local knowledge for similar isolations and preparations
		2.7	Identify available/permissible preparation strategies, including purging fluids and techniques
		2.8	Draft strategies for isolation and preparation
		2.9	Communicate, as appropriate, with stakeholders
		2.10	Negotiate isolation and preparation conflicts
		2.11	Prepare isolation philosophy for work

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3	**Manage hazards**	3.1	Identify existing hazards of plant, process and materials
		3.2	Identify hazards associated with performing the isolations and preparation
		3.3	Identify hazards associated with purging/flushing/venting materials
		3.4	Draft strategies for controlling any releases
		3.5	Estimate required preparation durations taking into account factors, such as starting conditions, safe rates of change (pressure, temperature), volumes and pressures required
		3.6	Make recommendations for improvement in accordance with procedures
		3.7	Liaise with technical experts as required
		3.8	Specify types of isolations and locations of isolations required
		3.9	Specify controls to bring hazards to ‘as low as reasonably practicable’ (ALARP)
4	**Plan required isolation and preparation**	4.1	Determine required sequencing of all steps
		4.2	Develop isolation procedure
		4.3	Develop preparation procedure
		4.4	Develop decontamination procedures
		4.5	Develop required procedures for plant supplementary systems
		4.6	Verify procedures against relevant drawings and the plant
		4.7	Identify and schedule required pre-work
		4.8	Determine competencies required to complete planned isolations and preparation
		4.9	Plan required de-isolation and preparation for return to service

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		4.10	Discuss proposed plans with relevant stakeholders
		4.11	Complete required documentation
5	**Obtain authority to execute plan**	5.1	Obtain approval to implement the isolation and preparation plan
		5.2	Obtain approval to implement the de-isolation and preparation for return to service plan
		5.3	Acquire hardware and resources for isolation and de-isolation and preparation for work and return to service

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:

- Government of Western Australia, Department of Commerce, Guidance note – Isolation of plant, 2010 (or similar state regulation)
- National Offshore Petroleum Safety Authority (NOPSA) requirements, where relevant
- Major Hazard Facility (MHF) Licence to operate, where relevant
- legislative requirements, including work health and safety (WHS)
- industry codes of practice and guidelines
- environmental regulations and guidelines
- Australian and other standards

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- licence and certification requirements

All operations to which this unit applies are subject to stringent health, safety and environment (HSE) requirements, which may be imposed through state/territory or federal legislation, and these must not be compromised at any time. Where there is an apparent conflict between performance criteria and HSE requirements, the HSE requirements take precedence

Hazards

Hazards include one or more of the following:

- electricity
- gas (flammable, toxic and anoxic)
- gases and liquids under pressure
- structural hazards
- structural collapse
- equipment failures
- industrial (machinery, equipment and product)
- equipment or product mass
- plant services (steam, condensate and cooling water)
- limited head spaces or overhangs
- working at heights, in restricted or confined spaces, or in environments subjected to heat, noise, dusts or vapours
- 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

Procedures

All operations must be performed in accordance with relevant procedures.

Procedures are written, verbal, visual, computer-based or in some other form, include one or more of the following:

- emergency procedures
- work instructions
- standard operating procedures (SOPs)
- safe work method statements (SWMS)
- formulas/recipes

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- batch sheets
- temporary instructions
- any similar instructions provided for the smooth running of the plant

Determining competencies required

Determining competencies required for isolation and preparation includes consideration of the need for skilled/qualified/licensed personnel in the areas of the following:

- electrical (normal)
- electrical high voltage and hazardous area
- electrical isolation/de-isolation
- radiation
- heights
- mobile plant
- plumbing
- mechanical fitting
- permit preparation

Isolation procedures

Isolation procedures include one or more of the following:

- isolation processes
- isolation list
- multiple isolations
- temporary lifting of isolations, when and if required
- interlocks
- and will include consideration of:
  - isolation alternatives
  - conflicts of isolation

Verifying procedures

Verifying procedures include one or more of the following:

- checking existing documents which have been used are accurate, current and complete
- checking planned isolation points do exist, are accessible, and are suitable for the isolation planned
- having a history of providing the isolation desired

Relevant drawings

Relevant drawings include one or more of the following:

- piping and instrumentation diagrams (P&IDs)
- process flow diagrams (PFDs)
- process flow sheets (PFSs)

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- process engineering flow sheets (PEFs)

Required pre-work

Required pre-work includes one or more of the following:

- scaffolding
- building up/depletion of inventories/work in progress (WIP)
- obtaining of supplies
- identification tags
- lock out kits

Required documentation

Required documentation includes one or more of the following:

- drawings
- procedures
- marking up existing documents
- punch lists
- vendor documents/engineering specifications
- documentation required by the site work control system (e.g. permits)

Documents will conform to the site requirements and document control systems, and will be paper-based, electronic or in another approved form.

Authority to execute

Authority to execute includes both the authorisation to proceed and the timing of that execution. Authority will be obtained through the channels required by the organisation/facility.

The level of authority required will vary for different types of work, different types of isolation and different plants/facilities.

Unit Mapping Information

Release 1. Supersedes and is equivalent to PMASUP444A Plan plant preparation and isolation

Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=9fc2cf53-e570-4e9f-ad6a-b228ffdb6875

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Assessment Requirements for PMASUP444 Plan plant preparation and isolation

Modification History

Release 1. Supersedes and is equivalent to PMASUP444A Plan plant preparation and isolation

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 the ability to:

- plan, prepare and develop plant preparation and isolation philosophy/activities for a particular activity
- arrange resources as required
- communicate effectively with stakeholders, including manufacturers, engineering personnel, designers, contractors and maintenance and other company personnel
- identify hazards and risks and apply risk control procedures
- complete written/electronic documentation.

Knowledge Evidence

Evidence must be provided that demonstrates knowledge of:

- all items on a schematic of the system and functions of each
- principles of operation of items of equipment in the system
- process parameters and limits, (e.g. temperature, pressure, flow and pH) and plant integrity limits
- typical requirements for preparation to ensure that plant and equipment is in a safe and appropriate condition for the required work, including:
  - draining
  - purging
  - inerting
  - decontaminating
  - cleaning
  - ventilating
  - controlling atmosphere (e.g. to ensure it is breathable, and is not within the flammable range)
  - adjusting temperature to make a workable environment
  - adjusting pressure (usually to atmospheric)
  - ensuring adequate access and egress

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- implications of isolation in both the area of the work and upstream and downstream, including:
  - upstream and downstream process implications
  - ability to prepare plant once isolated
  - integrity of plant once isolated and prepared
- methods for controlling releases to the environment, including:
  - preventing any release
  - containing any release
  - recovery and reuse or disposal of any release.
  -

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 is best done from a report and/or folio of evidence drawn from:
  - a single project which provides sufficient evidence of the requirements of all the elements and performance criteria
  - multiple smaller projects which together provide sufficient evidence of the requirements of all the elements and performance criteria.
- A third-party report, or similar, may be needed to testify to the work done by the individual, particularly when the project has been done as part of a project team.
- Assessment should use a real project in an operational workplace. Where this is not possible or practical, assessment must occur using 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.
- Simulation may be used for part only of this unit.
- Knowledge evidence may be collected concurrently with performance evidence 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.
- Assessors must satisfy the assessor competency requirements that are in place at the time of the assessment as set by the VET regulator.

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- In addition, the assessor or anyone acting in subject matter expert role in assessment must demonstrate both technical competency and currency. If the assessor cannot demonstrate technical competency and currency they must assess with a subject matter expert who does meet these requirements.
- Technical competence can be demonstrated through one or more of:
  - relevant VET or other qualification/Statement of Attainment
  - appropriate workplace experience undertaking the type of work being assessed under routine and non-routine conditions
  - appropriate workplace experience supervising/evaluating the type of work being assessed under routine and non-routine conditions
- Currency can be demonstrated through one or more of:
  - being currently employed undertaking the type of work being assessed
  - being employed by the organisation undertaking the type of work being assessed and having maintained currency in accordance with that organisation's policies and procedures
  - having consulted/had contact with an organisation undertaking the type of work being assessed within the last twelve months, the consultation/contact being related to assessment
  - conducting on-the-job training/assessments of the type of work being assessed
  - being an active member of a relevant professional body and participating in activities relevant to the assessment of this type of work.

Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=9fc2cf53-e570-4e9f-ad6a-b228ffdb6875

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PMASUP445 Participate in HAZOP studies

Modification History

Release 1. Supersedes and is equivalent to PMASUP445A Participate in HAZOP studies

Application

This unit of competency covers the skills and knowledge required to participate in hazard and operability studies (HAZOP).

HAZOP is a systematic method for examining complex facilities or processes to identify actual or potentially hazardous procedures and operating issues within the design, construction and commissioning of equipment and plant so that they may be eliminated or mitigated. Typically a multi-disciplinary team comprising operators, engineers, safety and other personnel will review a change in plant, process or equipment to see if the change can cause unforeseen hazards or introduce unexpected operability problems and confirm that the change meets the standards.

This unit of competency applies to senior technicians and those in similar roles who are required to apply in-depth knowledge of process and plant in order to review piping and instrumentation diagrams (P&IDs) or similar in relation to a proposed change, identify possible hazards or operability issues, recommend amendments to improve safety and operability of the change, and review and amend procedures in relation to the change.

This unit of competency applies to an individual who is part of a multi-disciplinary HAZOP team. At all times they would be liaising and cooperating with members of the team.

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

Pre-requisite Unit

PMAOPS280 Interpret process plant schematics

Competency Field

Support

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Unit Sector

Elements and Performance Criteria

Elements describe the essential outcomes.		Performance criteria describe the performance needed to demonstrate achievement of the element.	
1	**Prepare for HAZOP study**	1.1	Explain the purpose of the HAZOP study
		1.2	Review the key steps in undertaking the HAZOP study
		1.3	Review the HAZOP tools to be used
2	**Participate in a HAZOP study**	2.1	Identify the purpose and operation of the new/modified equipment/process
		2.2	Determine the normal operating conditions, method of operation and associated equipment and componentry of proposed change
		2.3	Review relevant information to assist in the identification of possible problems
		2.4	Process available information to identify potential hazards or operability issues
		2.5	Identify potential hazards or operability issues and possible consequences utilising key words
		2.6	Assess the risks arising from identified potential hazards or operability issues
		2.7	Identify items needing further action
		2.8	Review relevant operating and safety procedures
		2.9	Recommend possible solutions to minimise risk of proposed change
3	**Complete delegated actions within scope of responsibility**	3.1	Perform delegated actions within area of responsibility
		3.2	Follow initiated items through until final resolution has occurred
		3.3	Identify problems needing further action

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3.4 Determine possible fault causes within area of responsibility

3.5 Report outcomes to designated person

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.

Hazards

Hazards identified are situations/conditions which may lead to an incident or make operation difficult and will arise from consideration of key words.

Sources of information

Sources of information include, as appropriate to the proposed change:

- provisional layouts
- safety data sheets (SDS)
- process drawings (e.g. P&IDs, process flow diagrams (PFDs), and cause and effect)
- plant model
- equipment arrangement drawings
- provisional operating instructions/procedures
- plant operating procedures
- logic diagrams
- equipment reference manuals
- hazardous area layouts
- start-up and shutdown emergency procedures
- access to plant and equipment

Delegated action

Delegated actions arising from HAZOP study include one or more of the

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following:

- review of plant operating procedures
- undertaking additional tasks from action list HAZOP report
- attendance at HAZOP review meetings
- recording results from additional tasks

Unit Mapping Information

Release 1. Supersedes and is equivalent to PMASUP445A Participate in HAZOP studies

Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=9fc2cf53-e570-4e9f-ad6a-b228ffdb6875

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Assessment Requirements for PMASUP445 Participate in HAZOP studies

Modification History

Release 1. Supersedes and is equivalent to PMASUP445A Participate in HAZOP studies

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 the ability to:

- analyse schematics and other sources of information to identify actual and/or potential hazards and recognise conditions that might lead to operability issues
- utilise key words in the identification of potential hazards or operability issues
- identify possible consequences and asses risks from identified potential hazards and operability issues
- recommend possible solutions
- complete actions delegated from the HAZOP
- communicate effectively with multi-disciplinary stakeholders.

Knowledge Evidence

Evidence must be provided that demonstrates knowledge of:

- the architecture and location of the process/production equipment
- specific plant process operations
- interactions between plant items/processes
- product specifications and tolerances
- systems operating parameters
- system integrity limits
- process control philosophies and strategies
- emergency shutdown procedures
- science (e.g. physics, chemistry and biochemistry) relevant to process and materials
- impact of external factors (e.g. variations in weather and feed)
- process drawings (e.g. piping and instrumentation diagrams (P&IDs), process flow diagrams (PFDs), and cause and effect)
- basis of control for the plant/s
- instrumentation and control systems, components and loops as they relate to the modification under review
- impacts of changing process/production equipment settings and the limits within which changes can be made
- organisation procedures
- work health and safety (WHS), hazardous substances and environmental requirements

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- enterprise standard operating procedures, plant processes and equipment for area under review
- duty of care obligations
- hierarchy of control.

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 is best done from a report and/or folio of evidence drawn from:
  - a single project which provides sufficient evidence of the requirements of all the elements and performance criteria
  - multiple smaller projects which together provide sufficient evidence of the requirements of all the elements and performance criteria.
- A third-party report, or similar, may be needed to testify to the work done by the individual, particularly when the project has been done as part of a project team.
- Assessment should use a real project in an operational workplace. Where this is not possible or practical, assessment must occur using 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.
- Knowledge evidence may be collected concurrently with performance evidence 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.
- Assessors must satisfy the assessor competency requirements that are in place at the time of the assessment as set by the VET regulator.
- In addition, the assessor or anyone acting in subject matter expert role in assessment must demonstrate both technical competency and currency. If the assessor cannot demonstrate technical competency and currency they must assess with a subject matter expert who does meet these requirements.
- Technical competence can be demonstrated through one or more of:
  - relevant VET or other qualification/Statement of Attainment
  - appropriate workplace experience undertaking the type of work being assessed under routine and non-routine conditions
  - appropriate workplace experience supervising/evaluating the type of work being assessed under routine and non-routine conditions
- Currency can be demonstrated through one or more of:

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- being currently employed undertaking the type of work being assessed
- being employed by the organisation undertaking the type of work being assessed and having maintained currency in accordance with that organisation's policies and procedures
- having consulted/had contact with an organisation undertaking the type of work being assessed within the last twelve months, the consultation/contact being related to assessment
- conducting on-the-job training/assessments of the type of work being assessed
- being an active member of a relevant professional body and participating in activities relevant to the assessment of this type of work.

Links

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PMASUP520 Review procedures to minimise environmental impact of process

Modification History

Release 1. Supersedes and is equivalent to PMASUP520B Review procedures to minimise environmental impact of process

Application

This unit of competency covers the skills and knowledge required to establish and review procedures to minimise the environmental impact of a process and/or plant using a proactive environmental management approach. Proactive environmental management goes beyond complying with environmental requirements and integrates environmental goals with core business objectives.

This unit of competency applies to senior technicians, paraprofessionals or those in similar roles who are required to apply in-depth knowledge of process and plant in order to develop, implement and review procedures that will conserve resources and minimise pollution and waste, and ensure that the procedures are supported by appropriate training and record keeping.

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	**Develop procedures for**	1.1 Develop workplace procedures of proactive environmental management which include resource

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	environmental management		conservation, pollution and waste minimisation
		1.2	Determine primary source of respective aspects
		1.3	Determine the negative impact of these aspects on the environment and the society if they are mismanaged
		1.4	Prioritise management options according to the greatest benefit to environment and the society
		1.5	Develop management procedures
		1.6	Complete required documentation to implement change
2	**Review procedures for environmental management**	2.1	Review the procedures on a regular basis by consulting relevant work groups for feedback
		2.2	Incorporate relevant feedback into the revised procedures in consultation with the relevant personnel
		2.3	Inform relevant work groups of any changes and implement changes in the procedures
3	**Implement and review an environmental management training program**	3.1	Identify the workplace environmental management training program
		3.2	Review the program on a regular basis by consulting relevant work groups for feedback
		3.3	Incorporate relevant feedback into the revised program in consultation with the relevant personnel
		3.4	Inform relevant work groups of any changes and implement changes in the training program
4	**Implement and review environmental management recording system**	4.1	Identify the workplace environmental management recording system
		4.2	Review the system on a regular basis by consulting relevant work groups for feedback
		4.3	Incorporate relevant feedback into the revised system in consultation with the relevant personnel

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4.4 Inform relevant work groups of any changes and implement changes in the management of environmental records

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

All operations to which this unit applies are subject to stringent health, safety and environment (HSE) requirements, which may be imposed through state/territory or federal legislation, and these must not be compromised at any time. Where there is an apparent conflict between performance criteria and HSE requirements, the HSE requirements take precedence.

Procedures

All operations must be performed in accordance with relevant procedures.

Procedures are written, verbal, visual, computer-based or in some other form, include one or more of the following:

- emergency procedures
- work instructions

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- 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

Stakeholders

Stakeholders include one or more of the following:

- organisation management and operational staff
- suppliers
- contractors
- others acting on the organisation's behalf
- customers

Sources of information

Sources of information include one or more of the following:

- organisation goals, commitments and procedures (e.g. business/strategic plans, voluntary environmental agreements entered into with external organisations/authorities, and organisation policies and procedures)
- regulatory framework
- consultation with internal stakeholders
- own knowledge and experience of plant/process
- technical/operational documentation
- schematic (e.g. piping and instrumentation diagrams (P&IDs and process flow diagrams (PFDs))

Unit Mapping Information

Release 1. Supersedes and is equivalent to PMASUP520B Review procedures to minimise environmental impact of process

Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=9fc2cf53-e570-4e9f-ad6a-b228ffdb6875

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Assessment Requirements for PMASUP520 Review procedures to minimise environmental impact of process

Modification History

Release 1. Supersedes and is equivalent to PMASUP520B Review procedures to minimise environmental impact of process

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 the ability to:

- analyse information from a range of sources to determine environmental aspects/interactions of plant and/or processes and potential impacts
- develop, evaluate and prioritise options for minimising impact
- develop and document procedures to implement priority options
- communicate and consult effectively with stakeholders
- review and revise relevant procedures, record keeping system and training programs to reflect amendments and feedback from stakeholders.

Knowledge Evidence

Evidence must be provided that demonstrates sufficient knowledge to interact with relevant personnel and be able to establish and review procedures to minimise the environmental impact of a process, including knowledge of:

- aspects of interaction of plant/processes with the environment and society
- the effects on the environment and society of the organisation's:
  - liquid waste
  - solid waste
  - gas/fume/vapour/smoke emissions, including fugitive emissions
  - hazardous materials
  - energy and water use
  - noise
- management strategies and workplace practices that can be used to minimise or prevent these effects, including:
  - recycling and reusing
  - reducing amount of non-renewable resources used
  - reducing volume and/or concentration/intensity of pollutants made
  - reducing emissions
  - improving housekeeping (e.g. using a broom instead of a hose, and using old rags for cleaning instead of toxic cleaners or water)

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  - substituting materials (e.g. replacing toxic solvent-based coatings with water-based ones)
  - changing processes (e.g. mechanical cleaning, and re-design of products/procedures so that materials are used more efficiently)
  - tenders for the provision of goods and services that specify environmentally preferred selection criteria
- nature and severity of the effect the pollutants and waste materials can have on the environment and society
- types of local conditions that can make environmental threats more 'sensitive'
- pathways of entry to the environment from the plant
- systems operating parameters
- system integrity limits
- process control philosophies and strategies
- product specifications and tolerances
- principles of operation of plant/equipment
- science (e.g. physics, chemistry and biochemistry) relevant to process and materials
- organisation procedures, including those covering:
  - environmental management
  - safety, emergency and hazard control
  - procurement
- hierarchy of control.

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 is best done from a report and/or folio of evidence drawn from:
  - a single project which provides sufficient evidence of the requirements of all the elements and performance criteria
  - multiple smaller projects which together provide sufficient evidence of the requirements of all the elements and performance criteria.
- A third-party report, or similar, may be needed to testify to the work done by the individual, particularly when the project has been done as part of a project team.
- Assessment should use a real project in an operational workplace. Where this is not possible or practical, assessment must occur using 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.
- It is not necessary for the recommended improvements in utility/efficiency to be complete for the purposes of this unit.
- Knowledge evidence may be collected concurrently with performance evidence or through an independent process, such as workbooks, written assessments or interviews (provided a record is kept).

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- 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.
- Assessors must satisfy the assessor competency requirements that are in place at the time of the assessment as set by the VET regulator.
- In addition, the assessor or anyone acting in subject matter expert role in assessment must demonstrate both technical competency and currency. If the assessor cannot demonstrate technical competency and currency they must assess with a subject matter expert who does meet these requirements.
- Technical competence can be demonstrated through one or more of:
  - relevant VET or other qualification/Statement of Attainment
  - appropriate workplace experience undertaking the type of work being assessed under routine and non-routine conditions
  - appropriate workplace experience supervising/evaluating the type of work being assessed under routine and non-routine conditions
- Currency can be demonstrated through one or more of:
  - being currently employed undertaking the type of work being assessed
  - being employed by the organisation undertaking the type of work being assessed and having maintained currency in accordance with that organisation’s policies and procedures
  - having consulted/had contact with an organisation undertaking the type of work being assessed within the last twelve months, the consultation/contact being related to assessment
  - conducting on-the-job training/assessments of the type of work being assessed
  - being an active member of a relevant professional body and participating in activities relevant to the assessment of this type of work.

Links

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PMASUP620 Manage environmental management system

Modification History

Release 1. Supersedes and is equivalent to PMASUP620B Manage environmental management system

Application

This unit of competency covers the skills and knowledge required to establish and manage the environmental management system.

This unit of competency applies to senior technicians, paraprofessionals and those in similar roles who are required to demonstrate in-depth knowledge of the business, process and plant in order to identify and quantify business opportunities from environmental management and establish procedures, goals and systems to implement environmental sustainability, continuous improvement and sustainable innovation as integral to the business.

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	**Develop an environmental management system**	1.1 Select an appropriate environmental management system as a model for the enterprise/plant
		1.2 Develop environmental management policies that reflect the organisation's commitment to environmental sustainability as an integral part of business planning

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			and as a business opportunity
		1.3	Develop strategies to encourage all stakeholders to meet high standards of environmental performance and support sustainable innovation and continuous improvement
		1.4	Develop policies and procedures to incorporate and support triple bottom line principles
		1.5	Develop policies/procedures which minimise environmental impacts
		1.6	Check policies conform to current regulatory requirements
		1.7	Address environmental management at the planning, design and evaluation stages to ensure that any changes in the workplace are identified for ongoing impact and opportunity
2	**Manage innovation and improvement**	2.1	Identify, evaluate and take into consideration changing trends and opportunities relevant to the organisation for ongoing improvement programs
		2.2	Promote continuous improvement and sustainable innovation as an essential part of doing business and as a context for assessment and planning of environmental performance
		2.3	Develop continuous improvement and innovation policies and procedures that include training and professional development to optimise the environmental performance of the organisation
		2.4	Develop a system to analyse and communicate the costs and benefits of innovations and improvements and to measure, monitor and record environmental performance
		2.5	Develop performance benchmarks and indicators and set targets to maximise continuous improvement
3	**Review environmental management**	3.1	Develop processes to ensure that an integrated ongoing review is part of the organisation policy and procedures
		3.2	Promote improvement and sustainable innovation to

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system	organisational performance by ongoing evaluation and assessment, and changes to policies

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:

- relevant Commonwealth and state/territory Environment Acts
- applicable state/territory environmental regulations
- licences and permit conditions
- industry codes of practice and guidelines
- Australian and other standards
- environmental treaties and conventions
- national environmental policies, strategies and initiatives, such as the National Greenhouse Strategy and National Strategy for Ecologically Sustainable Development
- National Pollutant Inventory
- State of the Environment Reports
- Industry Association Commitments (e.g. The Global Mining Initiative)
- health and safety legislation, codes of practice and guidance material
- legislative requirements, including work health and safety (WHS)
- environmental regulations and guidelines
- licence and certification requirements

All operations to which this unit applies are subject to stringent health,

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safety and environment (HSE) requirements, which may be imposed through state/territory or federal legislation, and these must not be compromised at any time. Where there is an apparent conflict between performance criteria and HSE requirements, the HSE requirements take precedence.

Procedures

All operations must be performed in accordance with relevant procedures.

Procedures are written, verbal, visual, computer-based or in some other form, 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

Sources of information

Sources of information include one or more of the following:

- organisation goals, commitments and procedures (e.g. business/strategic plans, voluntary environmental agreements entered into with external organisations/authorities, and organisation policies and procedures)
- regulatory framework
- consultation with internal and external stakeholders
- own knowledge and experience of plant/process
- technical/operational documentation
- schematic (e.g. piping and instrumentation diagrams (P&IDs) and process flow diagrams (PFDs))
- available research/data (e.g. industry benchmarking data/systems and sustainability performance measures/metrics)

Performance benchmarks

Performance benchmarks and targets include one or more of the following:

- best practice or industry codes for the industry/sector
- levels of performance expected of organisation sectors and/or the organisation as a whole

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Stakeholders

Stakeholders include one or more of the following:

- board members, financial backers and owners
- all members of the organisation, including management and staff members
- suppliers
- contractors
- others acting on the organisation's behalf
- customers
- external individuals or bodies who may have an interest in or may be affected by the organisation

Continuous improvement and innovation policies

Continuous improvement and innovation policies include one or more of the following:

- consistent reviewing activities in search of a better way
- improving the organisation in all aspects of its operation and may look at life cycle impacts of the organisation, including:
  - activities and products are designed to minimise life cycle impacts and maximise opportunities
  - tendering and purchasing processes that include life cycle criteria
  - product design and manufacture
  - packaging policies
  - product use and disposal
- vehicle policies that include use of cleaner fuels or alternative energy sources and regular servicing intervals to reduce pollution and improve efficiency

Environmental sustainability

Environmental sustainability may be influenced by one or more of the following:

- the organisational culture and operations
- internal or external economic climate
- political climate
- market focus/considerations
- environmental impacts of the business operation

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Unit Mapping Information

Release 1. Supersedes and is equivalent to PMASUP620B Manage environmental management system

Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=9fc2cf53-e570-4e9f-ad6a-b228ffdb6875

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Assessment Requirements for PMASUP620 Manage environmental management system

Modification History

Release 1. Supersedes and is equivalent to PMASUP620B Manage environmental management system

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 the ability to:

- obtain and analyse information from a range of sources to determine environmental aspects/interactions of plant and/or processes and potential impacts
- communicate, consult and negotiate effectively with internal and external stakeholders from a range of social, cultural and ethnic backgrounds, and physical and mental abilities
- use problem-solving skills to develop strategies and procedures to deal with identified environmental impacts and opportunities
- plan, write and evaluate a system of policies and procedures to implement the strategies and procedures into the organisation.

Knowledge Evidence

Evidence must be provided that demonstrates sufficient knowledge to interact with relevant personnel and be able to manage the environmental management system, including knowledge of:

- change management
- continuous improvement
- policy development, performance benchmarking and indicator development relevant to the organisation's activities
- environment sustainability as a 'whole system' approach
- implications/application of sustainable development for a business
- techniques to measure sustainability/environmental performance in terms of an organisation's impact on the environment and their ability to manage and minimise negative impacts
- application of the 'triple bottom line' (TBL) principle as a framework for measuring and reporting corporate performance against economic, social and environmental parameters
- management strategies and workplace practices that can be used to minimise or prevent these effects, including:
  - recycling and reusing
  - reducing amount of non-renewable resources used
  - reducing volume and/or concentration/intensity of pollutants made

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    - reducing emissions
    - improving housekeeping (e.g. using a broom instead of a hose, and using old rags for cleaning instead of toxic cleaners or water)
    - substituting materials (e.g. replacing toxic solvent-based coatings with water-based ones)
    - changing processes (e.g. mechanical cleaning, and re-design of products/procedures so that materials are used more efficiently)
    - tenders for the provision of goods and services that specify environmentally preferred selection criteria
- quality systems
- supply chain management
- relevant system analysis and design principles
- organisation business goals and strategic plans
- strategies to maximise opportunities
- environment impact minimisation strategies
- environmental issues, including as relevant to the organisation, water catchments, air/emissions, noise, ecosystems, habitat and waste minimisation
- relevant social sustainability issues, including corporate image, staff morale, customer loyalty and community engagement
- financial/market issues related to environmental management, including cost reduction, product differentiation/branding and identification of market potential
- organisation procedures, including those covering:
    - environmental management
    - safety, emergency and hazard control
    - procurement
- duty of care obligations
- hierarchy of control.

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 is best done from a report and/or folio of evidence drawn from:
    - a single project which provides sufficient evidence of the requirements of all the elements and performance criteria
    - multiple smaller projects which together provide sufficient evidence of the requirements of all the elements and performance criteria.
- A third-party report, or similar, may be needed to testify to the work done by the individual, particularly when the project has been done as part of a project team.

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- Assessment should use a real project in an operational workplace. Where this is not possible or practical, assessment must occur using 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.
- Simulation may be used for part only of this unit.
- It is not necessary for the recommended improvements in utility efficiency to be complete for the purposes of this unit.
- Knowledge evidence may be collected concurrently with performance evidence 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.
- Assessors must satisfy the assessor competency requirements that are in place at the time of the assessment as set by the VET regulator.
- In addition, the assessor or anyone acting in subject matter expert role in assessment must demonstrate both technical competency and currency. If the assessor cannot demonstrate technical competency and currency they must assess with a subject matter expert who does meet these requirements.
- Technical competence can be demonstrated through one or more of:
  - relevant VET or other qualification/Statement of Attainment
  - appropriate workplace experience undertaking the type of work being assessed under routine and non-routine conditions
  - appropriate workplace experience supervising/evaluating the type of work being assessed under routine and non-routine conditions
- Currency can be demonstrated through one or more of:
  - being currently employed undertaking the type of work being assessed
  - being employed by the organisation undertaking the type of work being assessed and having maintained currency in accordance with that organisation’s policies and procedures
  - having consulted/had contact with an organisation undertaking the type of work being assessed within the last twelve months, the consultation/contact being related to assessment
  - conducting on-the-job training/assessments of the type of work being assessed
  - being an active member of a relevant professional body and participating in activities relevant to the assessment of this type of work.

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Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=9fc2cf53-e570-4e9f-ad6a-b228ffdb6875

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PMAWHS420 Develop first aid procedures and manage resources

Modification History

Release 1. Supersedes and is equivalent to PMAOHS420B Develop First Aid procedures and manage resources

Application

This unit of competency covers the skills and knowledge required to manage the development and implementation of a workplace first aid system.

This unit of competency applies to operators who are required to plan and coordinate processes to develop new or review existing first aid procedures, communicate procedures to others, and ensure training and professional development needs are addressed.

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

Work health and safety

Unit Sector

Elements and Performance Criteria

Elements describe the essential outcomes.		Performance criteria describe the performance needed to demonstrate achievement of the element.	
1	**Develop effective organisational systems**	1.1	Coordinate participative processes to identify and agree on outcomes
		1.2	Initiate processes to plan, implement and control systems to achieve identified outcomes

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		1.3	Implement/develop policies and procedures consistent with procedures.
		1.4	Develop and maintain processes for effective conduct of first aid responsibilities
		1.5	Distribute changes in policy and procedures to relevant personnel using appropriate communication channels
		1.6	Undertake review of procedures/policies, and report recommendations as required
2	**Implement effective first aid training and practice**	2.1	Maintain links with first aid bodies, professionals and clinical organisations/bodies
		2.2	Maintain currency of first aid and personal qualifications in accordance with industry and organisational requirements
		2.3	Review and validate risks against procedures
		2.4	Coordinate, plan, implement and evaluate additional training in a timely manner to meet the needs of individuals and the worksite
		2.5	Ensure practices are consistent with current standards and policies
		2.6	Coordinate planning for response to major incidents and make known to the work group in readiness for implementation
3	**Maintain up-to-date professional development of knowledge and skills**	3.1	Undertake self-education process in accordance with workplace principles and opportunities
		3.2	Access links with various professional first aid bodies and organisations to maintain currency in the field
		3.3	Access and communicate promptly relevant information to work group, and maintain certification in accordance with workplace procedures and legislation

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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

All operations to which this unit applies are subject to stringent health, safety and environment (HSE) requirements, which may be imposed through state/territory or federal legislation, and these must not be compromised at any time. Where there is an apparent conflict between performance criteria and HSE requirements, the HSE requirements take precedence.

Procedures

All operations must be performed in accordance with relevant procedures.

Procedures are written, verbal, visual, computer-based or in some other form, include one or more of the following:

- directives and/or guidelines from:
  - Australian Resuscitation Council (ARC)
  - National Health and Medical Research Council (NHMRC)
  - Australian Standards
  - Worksafe Australia
- emergency procedures

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- 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

Systems

A first aid system must be supported by systems and procedures in related areas of the organisation, including the following:

- ordering (e.g. magazines, books and supplies)
- skills updating (e.g. attending conferences/workshops and reading publications)
- professional development and networking (e.g. attending conferences/workshops and reading publications)
- communication
- technology
- training and assessment, and refresher training
- IT
- record keeping
- health safety and environment
- hazard and risk management

Professional development

Professional development includes one or more of the following:

- accessing up to date information about industry practices, codes and certification requirements via:
  - meetings
  - seminars
  - conferences
  - membership of professional first aid bodies
- education/self-education processes, such as:
  - attendance at relevant seminars and conferences
  - maintenance of professional library
  - membership of first aid bodies
  - formal training
  - supervised or unsupervised practice to maintain currency of competence

First aid bodies

First aid bodies and professional and clinical organisations/bodies include

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and clinical organisations	the following: • Australian Resuscitation Council (ARC) • International Liaison Committee on Resuscitation (ILCOR) • support groups • registered providers/authorities

Unit Mapping Information

Release 1. Supersedes and is equivalent to PMAOHS420B Develop First Aid procedures and manage resources

Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=9fc2cf53-e570-4e9f-ad6a-b228ffdb6875

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Assessment Requirements for PMAWHS420 Develop first aid procedures and manage resources

Modification History

Release 1. Supersedes and is equivalent to PMAOHS420B Develop First Aid procedures and manage resources

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 the ability to:

- communicate effectively orally and in writing
- coordinate participative processes
- plan for and develop procedures incorporating input from others
- evaluate policy/procedures and make recommendations for improvement
- determine the need for training and professional development and coordinate appropriate responses
- manage own professional development and currency of certification
- monitor the implementation of the system and make amendments, including:
  - correct application of procedures
  - alignment to current first aid practice/standards
  - need for information/communications
  - integration with other systems/procedures
- write procedures, including technical and numerical information.

Knowledge Evidence

Evidence must be provided that demonstrates knowledge of:

- organisational procedures, including those covering:
  - safety, hazards and hazard control
  - incident, fire and accident
  - environmental protection
  - risk assessment/risk management
- hazards that may arise in the job/work environment, and:
  - their possible causes
  - potential consequences
  - risks
  - appropriate risk controls
- regulatory framework
- state and territory regulations relating to currency of skills and knowledge

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- training and assessment processes and methods
- identifying and evaluating training/assessment options
- techniques for identifying skills/training needs
- national training agenda
- the role of professional development
- first aid principles and practices.

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 is best done from a report and/or folio of evidence drawn from:
  - a single project which provides sufficient evidence of developing new or reviewing existing first aid procedures which satisfy the requirements of all the elements and performance criteria
  - multiple smaller projects which together provide sufficient evidence of developing new or reviewing existing first aid procedures which satisfy the requirements of all the elements and performance criteria.
- A third-party report, or similar, may be needed to testify to the work done by the individual, particularly when the project has been done as part of a project team.
- Assessment should use a real project in an operational workplace. Where this is not possible or practical, assessment must occur using 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.
- Knowledge evidence may be collected concurrently with performance evidence 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.
- Assessors must satisfy the assessor competency requirements that are in place at the time of the assessment as set by the VET regulator.
- In addition, the assessor or anyone acting in subject matter expert role in assessment must demonstrate both technical competency and currency. If the assessor cannot demonstrate technical competency and currency they must assess with a subject matter expert who does meet these requirements.
- Technical competence can be demonstrated through one or more of:
  - relevant VET or other qualification/Statement of Attainment

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  - appropriate workplace experience undertaking the type of work being assessed under routine and non-routine conditions
  - appropriate workplace experience supervising/evaluating the type of work being assessed under routine and non-routine conditions
- Currency can be demonstrated through one or more of:
  - being currently employed undertaking the type of work being assessed
  - being employed by the organisation undertaking the type of work being assessed and having maintained currency in accordance with that organisation's policies and procedures
  - having consulted/had contact with an organisation undertaking the type of work being assessed within the last twelve months, the consultation/contact being related to assessment
  - conducting on-the-job training/assessments of the type of work being assessed
  - being an active member of a relevant professional body and participating in activities relevant to the assessment of this type of work.

Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=9fc2cf53-e570-4e9f-ad6a-b228ffdb6875

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PMBFIN201 Finish products and components

Modification History

Release 1. Supersedes and is equivalent to PMBFIN201C Finish products and components

Application

This unit of competency covers the skills and knowledge required to use materials and equipment to finish products to make them ready for use by customers or in a subsequent process.

Finishing refers to a range of secondary value-adding processes, such as trimming, grinding, applying protective coatings, cleaning, sorting, assembly and repair of minor surface imperfections.

This unit of competency applies to production support operators or those in similar roles who are required to communicate with others and apply procedures in order to select and apply finishing processes, inspect the product for routine and non-routine imperfections and take appropriate action.

It applies to an individual working alone or as part of a team or group and working in liaison with other shift team members, team leader and supervisor, as appropriate.

This unit of competency applies to all sectors of the industry.

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

Pre-requisite Unit

Nil

Competency Field

Finishing

Unit Sector

Not applicable

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Elements and Performance Criteria

Elements describe the essential outcomes.		Performance criteria describe the performance needed to demonstrate achievement of the element.	
1	**Establish requirements for the finishing process**	1.1	Identify work requirements from procedures
		1.2	Assemble equipment and consumables for the finishing process
		1.3	Consult workplace procedures and safety data sheets (SDS) to confirm the work planning process
		1.4	Ensure safety equipment is available and in sound condition
		1.5	Remove products from equipment, if required, using enterprise standard handling methods
		1.6	Recognise end-of-product run
2	**Check quality of product**	2.1	Inspect product to identify routine and non-routine finishing requirements
		2.2	Identify significant finning, flash or other quality problems and report to appropriate person for investigation of mould/die closure/alignment
		2.3	Check with appropriate personnel regarding modifications to finishing process
		2.4	Identify and process non-conforming products in accordance with workplace procedures.
3	**Undertake the finishing operation**	3.1	Trim product as required
		3.2	Apply procedures to other finishing processes
		3.3	Undertake other secondary process operations required
		3.4	Follow waste and recycling procedures
		3.5	Inspect finished product and compare to specifications for suitability for further processing or for customer delivery

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		3.6	Assemble finished products and sort in accordance with procedures
		3.7	Pack as required
		3.8	Record product data as required
		3.9	Clean up work area and perform housekeeping
4	**Identify and rectify routine product imperfections**	4.1	Identify the range of routine imperfections that can occur during the production process
		4.2	Determine and rectify routine product imperfections in accordance with procedures
		4.3	Ensure appropriate records and log books are maintained to meet procedures/work instructions
		4.4	Identify non-routine product imperfections and report to designated person

Foundation Skills

This section describes those required skills (language, literacy and numeracy) 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.

Applicable legislation, regulations, standards and codes of practice include:

- health, safety and environmental (HSE) legislation, regulations and codes

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of practice relevant to the workplace, manual handling and hazardous materials
- Australian/international standards relevant to the materials being used and products being made
- any relevant licence and certification requirements.

All operations to which this unit applies are subject to stringent HSE requirements, which may be imposed through state/territory or federal legislation, and these must not be compromised at any time. Where there is an apparent conflict between performance criteria and such requirements the legislative requirements take precedence.

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 any combination of:

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:

- electric and/or air powered tools, such as routers, saws, drills, drivers and sanders knives, files and scrapers
- knives and knife sharpeners
- band saws
- hand saws.

Additional tools and equipment will be selected as required from:

- hoists/lifting equipment not requiring any special permits or licences
- manual handling aids, such as hand carts and trolleys
- relevant personal protective equipment (PPE).

Routine

Routine problems must be resolved by applying known solutions.

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problems

Routine problems are predictable and include one or more of:

- movement of jigs or fixtures
- power failures
- non-supply of materials
- broken cords
- damaged or inoperable equipment
- variations in materials
- temperature of product to be finished
- movement of inserts, reinforcements or fittings size of some products
- inappropriate selection and use of finishing equipment/processes
- poor surface finish
- fining or shuts
- variations in section thickness
- product defects.

Known solutions are drawn from one or more of:

- procedures
- training
- remembered experience.

Non-routine problems must be reported according to relevant procedures.

Hazards

Hazards must be identified and controlled. Identifying hazards requires consideration of:

- heat, smoke, dust, vapours or other atmospheric hazards
- hazardous products and materials
- sharp edges, protrusions or obstructions
- slippery surfaces, spills or leaks
- electricity
- gas
- gases and liquids under pressure
- structural hazards
- equipment failures
- rotational equipment or vibration
- machinery, equipment and product mass
- limited head spaces or overhangs
- working at heights
- working in restricted or confined spaces

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- other hazards that might arise

Unit Mapping Information

Release 1. Supersedes and is equivalent to PMBFIN201C Finish products and components

Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=932aacef-7947-4c80-acc6-593719fe4090

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Assessment Requirements for PMBFIN201 Finish products and components

Modification History

Release 1. Supersedes and is equivalent to PMBFIN201C Finish products and 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 and demonstrate the ability to:

- read and interpret procedures, job specifications, material labels and safety data sheets (SDS)
- select and use tools and equipment to meet job specifications
- remove and handle products according to procedures
- inspect products and identify conformance and/or non-conformance to quality requirements
- finish product, including one or more of:
  - trimming/cutting
  - grinding
  - applying protective coatings
  - cleaning
  - sorting and assembly
  - repair of minor surface imperfections
- preserve identifying marks and trademarks, if present
- identify hazards and apply relevant hazard controls
- apply safety procedures
- apply housekeeping procedures
- apply waste management procedures
- recognise routine and non-routine problems
- identify when the operator is able to rectify faults, when assistance is required and who is the appropriate source for assistance
- take action to resolve faults or report faults to appropriate personnel
- distinguish between possible causes of routine faults, including:
  - raw material variations
  - contamination of raw material
  - process/procedural problems
  - mechanical abnormalities
  - production defects
- apply waste and recycling procedures
- communicate effectively with team/work group and supervisors

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- complete workplace records
- do basic arithmetical manipulations, including additions, subtractions, divisions, fractions and percentages.

Knowledge Evidence

Must provide evidence that demonstrates knowledge relevant to their job sufficient to operate under routine only supervision and to solve routine problems, including knowledge of:

- product quality requirements
- product defect classifications
- signs of typical product defects relevant to the products being made
- types and correct application of common protective coatings
- degrees of finish
- routine and non-routine problems that may arise, the range of possible causes and appropriate actions
- impact of incorrect or faulty materials
- organisation procedures relevant to the work environment/job role
- hierarchy of control
- hazards that may arise in the job/work environment and:
  - their possible causes
  - potential consequences
  - appropriate risk controls.

Assessment Conditions

- The unit should be assessed holistically and the judgement of competence shall be based on a holistic assessment of the evidence.
- In all plants it may be appropriate to assess this unit concurrently with units such as:
  - teamwork
  - communication
- 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 or other evidence, 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 industry appropriate materials, 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.

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- 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 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.
- Assessment in a simulated environment should use evidence collected from demonstration of skills and one or more of:
  - walk-throughs
  - pilot plant operation
  - industry-based case studies/scenarios
  - 'what ifs'.
- Knowledge evidence may be collected concurrently with performance evidence or through an independent process, such as workbooks, written assessments or interviews.
- 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.
- Assessors must satisfy the assessor competency requirements that are in place at the time of the assessment as set by the VET regulator.
- In addition the assessor or anyone acting in subject matter expert role in assessment shall demonstrate both technical competency and currency. If the assessor cannot demonstrate technical competency and currency they shall assess with a subject matter expert who does meet these requirements.
- Technical competence can be demonstrated through one or more of:
  - relevant VET or other qualification/Statement of Attainment
  - appropriate workplace experience undertaking the type of work being assessed under routine and non-routine conditions
  - appropriate workplace experience supervising/evaluating the type of work being assessed under routine and non-routine conditions.
- Currency can be demonstrated through one or more of:
  - being currently employed undertaking the type of work being assessed
  - being employed by the organisation undertaking the type of work being assessed and having maintained currency in accordance with that organisation's policies and procedures
  - having consulted/had contact with an organisation undertaking the type of work being assessed within the last twelve months, the consultation/contact being related to assessment
  - conducting on the job training/assessments of the type of work being assessed

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- being an active member of a relevant professional body and participating in activities relevant to the assessment of this type of work.

Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=932aacef-7947-4c80-acc6-593719fe4090

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PMBFIN205 Hand decorate products

Modification History

Release 1. Supersedes and is equivalent to PMBFIN205C Hand decorate products

Application

This unit of competency covers the skills and knowledge required to decorate products by hand.

This unit of competency applies to production support operators or those in similar roles who are required to inspect the product for routine and non-routine imperfections and take appropriate action, select appropriate materials and equipment, and prepare for and apply decorations manually.

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, team leader and supervisor, as appropriate.

It applies to all sectors of the industry.

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

Pre-requisite Unit

Nil

Competency Field

Finishing

Unit Sector

Not applicable

Elements and Performance Criteria

Elements describe the Performance criteria describe the performance needed to

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essential outcomes.		demonstrate achievement of the element.	
1	**Establish requirements for the finishing process**	1.1	Interpret customer order or product specifications
		1.2	Check availability of materials and equipment
		1.3	Identify and inspect products to be decorated for suitability of process
		1.4	Report unsuitable products to designated person
		1.5	Assemble materials, tools and facilities and check for suitability
		1.6	Locate manufacturer information and safety advice on products and use to plan work
		1.7	Identify required work sequences, times and work process stages
		1.8	Identify required engineering controls and personal protective equipment (PPE), and plan order of work
2	**Prepare surfaces**	2.1	Inspect product surfaces for contamination or damage
		2.2	Identify and eliminate sources of contamination
		2.3	Prepare surfaces in accordance with manufacturer instructions and workplace requirements
3	**Hand decorate products**	3.1	Identify required decorations to meet job order requirements
		3.2	Ensure decorations are fit for use and return those damaged or unusable
		3.3	Apply decorations in the appropriate locations
		3.4	Inspect finished product and compare specifications for suitability for further processing or for customer delivery
		3.5	Assemble finished products and sort in accordance with procedures
		3.6	Clean up work area and perform housekeeping

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4	**Identify and rectify routine hand decorating problems**	4.1	Identify the range of routine problems that can occur during the hand decorating process
		4.2	Determine and rectify routine hand decorating imperfections in accordance with procedures
		4.3	Identify faults in equipment, tag unserviceable equipment and report to designated person
		4.4	Ensure appropriate records and logbooks are maintained to meet procedures

Foundation Skills

This section describes those required skills (language, literacy and numeracy) 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.

Applicable legislation, regulations, standards and codes of practice include:

- health, safety and environmental (HSE) legislation, regulations and codes of practice relevant to the workplace and hazardous materials
- Australian/international standards relevant to the materials being used and products being made
- any relevant licence and certification requirements.

All operations to which this unit applies are subject to stringent HSE requirements, which may be imposed through state/territory or federal legislation, and these must not be compromised at any time. Where there is an

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apparent conflict between performance criteria and such requirements the legislative requirements take precedence.

The regulatory framework will be reflected in workplace policies and procedures and is not required to be independently assessed.

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 any combination of:

- 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 will be selected as required from:

- hand tools
- adhesive application equipment
- hand carts and trolleys
- hoists, jigs and gantries
- lifting equipment not requiring any special permits or licences
- relevant personal protective equipment (PPE).

Hazards

Hazards must be identified and controlled. Identifying hazards requires consideration of:

- heat, smoke, dust, vapours or other atmospheric hazards
- hazardous products and materials
- sharp edges, protrusions or obstructions
- slippery surfaces, spills or leaks
- electricity
- gas
- gases and liquids under pressure
- structural hazards
- equipment failures

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- rotational equipment or vibration
- machinery, equipment and product mass
- limited head spaces or overhangs
- working at heights
- working in restricted or confined spaces
- 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:

- non-supply of product
- defective product
- incorrect selection or supply of materials
- misalignment of decals, transfers or other decorative materials
- non-adherence of transfers, decals or stamps
- variations in materials
- temperature variations
- contamination of surfaces
- decals/transfers or stamps not within specification or not fit for use.

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 PMBFIN205C Hand decorate products

Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=932aacef-7947-4c80-acc6-593719fe4090

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Assessment Requirements for PMBFIN205 Hand decorate products

Modification History

Release 1. Supersedes and is equivalent to PMBFIN205C Hand decorate products

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 procedures, job specifications, material labels and safety data sheets (SDS)
- determine whether products are suitable for decoration
- select and use materials, tools and equipment to prepare for and apply decorations to meet job specifications
- identify the priority in which jobs/product will be completed ensuring appropriate materials and equipment are available
- check the completed work and identify conformance and/or non-conformance to specifications
- identify hazards and apply relevant hazard controls
- apply safety procedures
- apply housekeeping procedures
- apply waste management procedures
- recognise routine and non-routine problems
- identify when the operator is able to rectify faults, when assistance is required and who is the appropriate source for assistance
- take action to resolve faults or report faults to appropriate personnel
- distinguish between possible causes of routine faults, including:
  - raw material variations
  - contamination of raw material
  - process/procedural problems
  - mechanical abnormalities
  - production defects
- apply cleaning, waste and recycling procedures
- communicate effectively with team/work group and supervisors
- complete workplace records
- do basic arithmetical manipulations, including additions, subtractions, divisions, fractions and percentages.

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Knowledge Evidence

Must provide evidence that demonstrates knowledge relevant to their job sufficient to operate under routine only supervision and to solve routine problems, including knowledge of:

- product quality requirements
- product defect classifications
- signs of typical product defects relevant to the products being made
- types and application of common hand decorating techniques
- sources of contamination that may affect decorations and how to eliminate them
- routine and non-routine problems that may arise, the range of possible causes and appropriate actions
- organisation procedures relevant to the work environment/job role
- hierarchy of control
- hazards that may arise in the job/work environment and:
  - their possible causes
  - potential consequences
  - appropriate risk controls.

Assessment Conditions

- The unit should be assessed holistically and the judgement of competence shall be based on a holistic assessment of the evidence.
- In all plants it may be appropriate to assess this unit concurrently with units such as:
  - teamwork
  - communication.
- 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 or other evidence, 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 industry 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 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.
- Assessment in a simulated environment should use evidence collected from demonstration of skills and one or more of:

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  - walk-throughs
  - pilot plant operation
  - industry-based case studies/scenarios
  - ‘what ifs’.
- Knowledge evidence may be collected concurrently with performance evidence or through an independent process, such as workbooks, written assessments or interviews.
- 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.
- Assessors must satisfy the assessor competency requirements that are in place at the time of the assessment as set by the VET regulator.
- In addition the assessor or anyone acting in subject matter expert role in assessment shall demonstrate both technical competency and currency. If the assessor cannot demonstrate technical competency and currency they shall assess with a subject matter expert who does meet these requirements.
- Technical competence can be demonstrated through one or more of:
  - relevant VET or other qualification/Statement of Attainment
  - appropriate workplace experience undertaking the type of work being assessed under routine and non-routine conditions
  - appropriate workplace experience supervising/evaluating the type of work being assessed under routine and non-routine conditions
- Currency can be demonstrated through one or more of:
  - being currently employed undertaking the type of work being assessed
  - being employed by the organisation undertaking the type of work being assessed and having maintained currency in accordance with that organisation’s policies and procedures
  - having consulted/had contact with an organisation undertaking the type of work being assessed within the last twelve months, the consultation/contact being related to assessment
  - conducting on the job training/assessments of the type of work being assessed
  - being an active member of a relevant professional body and participating in activities relevant to the assessment of this type of work.

Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=932aacef-7947-4c80-acc6-593719fe4090

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PMBHAN103 Shift materials safely by hand

Modification History

Release 1. Supersedes and is equivalent to PMBHAN103C Shift materials safely by hand

Application

This unit of competency covers the skills and knowledge required to safely shift materials by hand. It applies to manually shifting raw materials, components, products or similar items with or without the use of manual handling aids, such as handcarts and block and tackle.

This unit of competency applies to production support, operators or those in similar roles who are required to identify the materials to be moved and manually load, unload, shift and store the materials according to procedures.

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, team leader and supervisor, as appropriate.

It applies to all sectors of the industry.

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

Pre-requisite Unit

Nil

Competency Field

Handling

Unit Sector

Not applicable

Elements and Performance Criteria

Elements describe the Performance criteria describe the performance needed to

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essential outcomes.		demonstrate achievement of the element.	
1	**Plan operations**	1.1	Correctly identify type and quantity of produce or material to be moved
		1.2	Identify the safest and most efficient and appropriate movement route
2	**Manually transfer products or materials**	2.1	Manually shift products or materials to and from production processes according to procedures and work health and safety (WHS) state/territory regulations
		2.2	Manually load specified products or materials at specific points during the manufacturing process, according to procedures and WHS state/territory regulations
3	**Store, stack and/or relocate products or materials**	3.1	Manually stack products or materials according to procedures and WHS state/territory regulations
		3.2	Manually store products or materials in correct locations
		3.3	Document and/or report material movements as required
4	**Respond to routine problems to procedures**	4.1	Recognise known faults that occur during the operation
		4.2	Identify and take action on causes of routine faults
		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 required skills (language, literacy and numeracy) that are essential to performance.

Foundation skills essential to performance are explicit in the performance criteria of this unit of competency.

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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.

Applicable legislation, regulations, standards and codes of practice include:

- health, safety and environmental (HSE) legislation, regulations and codes of practice relevant to the workplace, manual handling and hazardous materials
- any relevant licence and certification requirements.

All operations to which this unit applies are subject to stringent HSE requirements, which may be imposed through state/territory or federal legislation, and these must not be compromised at any time. Where there is an apparent conflict between performance criteria and such requirements the legislative requirements take precedence.

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 any combination of:

- 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:

- hand carts
- self-propelled trolleys
- wheelbarrows
- block and tackle

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- relevant personal protective equipment (PPE).

Hazards

Hazards must be identified and controlled. Identifying hazards requires consideration of:

- weight, shape, volume of materials to be handled
- hazardous products and materials
- sharp edges, protrusions or obstructions
- slippery surfaces, spills or leaks
- heat, smoke, dust, vapours or other atmospheric hazards
- electricity
- gas
- gases and liquids under pressure
- structural hazards
- equipment failures
- machinery, equipment and product mass
- other hazards that might arise.

Problems

Routine problems must be resolved by applying known solutions.

Routine problems are predictable and include one or more of:

- load too heavy or large for safe, easy moving
- load in awkward position for safe, easy moving
- clash of work priorities
- correct equipment not available
- irregularly shaped materials.

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 PMBHAN103C Shift materials safely by hand

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Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=932aacef-7947-4c80-acc6-593719fe4090

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Assessment Requirements for PMBHAN103 Shift materials safely by hand

Modification History

Release 1. Supersedes and is equivalent to PMBHAN103C Shift materials safely by hand

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 procedures, job specifications, material labels and safety data sheets (SDS)
- select and use materials, tools and equipment to meet job specifications
- plan and sequence the work to meet job specifications
- identify hazards and apply relevant hazard controls
- apply safety procedures
- apply housekeeping procedures
- apply waste management procedures
- recognise routine and non-routine problems
- identify when the operator is able to rectify problems, when assistance is required and who is the appropriate source for assistance
- take action to resolve faults or report problems to appropriate personnel
- distinguish between possible causes of routine problems, including:
  - characteristics of materials
  - process/procedural problems
  - mechanical abnormalities
- distinguish between jobs which:
  - may be easily and safely done by a single person
  - will require assistance from other people
  - require manual handling equipment
  - need mechanical lifting aids
- communicate effectively with team/work group and supervisors
- complete workplace records
- do basic arithmetical manipulations, including additions, subtractions, divisions, fractions and percentages.

Knowledge Evidence

their job sufficient to operate under routine only supervision and to solve routine problems, including knowledge of:

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- principles of safe manual handling
- types and application of manual handling and lifting/moving techniques
- types and application of lifting/moving equipment
- routine and non-routine problems that may arise, the range of possible causes and appropriate actions
- organisation procedures relevant to the work environment/job role
- hierarchy of control
- hazards that may arise in the job/work environment and:
  - their possible causes
  - potential consequences
  - appropriate risk controls.

Assessment Conditions

- The unit should be assessed holistically and the judgement of competence shall be based on a holistic assessment of the evidence.
- In all plants it may be appropriate to assess this unit concurrently with units such as:
  - teamwork
  - communication.
- 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 or other evidence, 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 industry appropriate materials, 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 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.
- Assessment in a simulated environment should use evidence collected from demonstration of skills and one or more of:
  - walk-throughs
  - pilot plant operation
  - industry-based case studies/scenarios
  - ‘what ifs’

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- Knowledge evidence may be collected concurrently with performance evidence or through an independent process, such as workbooks, written assessments or interviews.
- 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.
- Assessors must satisfy the assessor competency requirements that are in place at the time of the assessment as set by the VET regulator.
- In addition the assessor or anyone acting in subject matter expert role in assessment shall demonstrate both technical competency and currency. If the assessor cannot demonstrate technical competency and currency they shall assess with a subject matter expert who does meet these requirements.
- Technical competence can be demonstrated through one or more of:
  - relevant VET or other qualification/Statement of Attainment
  - appropriate workplace experience undertaking the type of work being assessed under routine and non-routine conditions
  - appropriate workplace experience supervising/evaluating the type of work being assessed under routine and non-routine conditions
- Currency can be demonstrated through one or more of:
  - being currently employed undertaking the type of work being assessed
  - being employed by the organisation undertaking the type of work being assessed and having maintained currency in accordance with that organisation’s policies and procedures
  - having consulted/had contact with an organisation undertaking the type of work being assessed within the last twelve months, the consultation/contact being related to assessment
  - conducting on the job training/assessments of the type of work being assessed
  - being an active member of a relevant professional body and participating in activities relevant to the assessment of this type of work.
  -

Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=932aacef-7947-4c80-acc6-593719fe4090

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PMBPREP205 Assemble materials and equipment for production

Modification History

Release 1. Supersedes and is equivalent to PMBPREP205C Assemble materials and equipment for production

Application

This unit of competency covers the skills and knowledge required to select and assemble materials and equipment in preparation for production.

This unit of competency applies to operators who are required to interpret product specifications, select materials and equipment, organise and confirm delivery of material/equipment, and sequence and place the materials/equipment correctly for production.

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, team leader and supervisor, as appropriate.

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

Pre-requisite Unit

Nil

Competency Field

Preparation

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	**Identify required**	1.1	Interpret product specifications

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	materials and equipment	1.2	Identify required materials, including additives
		1.3	Identify trade names for required product
		1.4	Determine quantity of materials required for product
		1.5	Identify required equipment, including handling, control and material preparation equipment
2	**Locate materials and equipment**	2.1	Locate required materials, equipment and machinery
		2.2	Mark items off on check list as required
		2.3	Identify non-conformances and report as required
		2.4	Identify and prepare appropriate holding area
3	**Assemble materials and equipment**	3.1	Use good manual handling practices
		3.2	Follow work health and safety (WHS) and other relevant procedures
		3.3	Collect and organise materials in a manner that ensures storage compatibility
		3.4	Visually check materials according to procedures
		3.5	Collect holding sample according to procedures
		3.6	Record details of specification and sample as required
4	**Organise internal workplace delivery of materials/ equipment as required**	4.1	Organise placement of material to required locations using enterprise procedures
		4.2	Notify and confirm delivery in accordance with enterprise requirements/procedures
		4.3	Follow workplace procedures as required by enterprise
5	**Store materials for production as**	5.1	Identify storage requirements
		5.2	Check holding area conditions meet material

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	required		requirements
		5.3	Store materials as required for production and to meet health and safety needs
		5.4	Complete required workplace documentation/records
6	**Respond to routine problems to procedures**	6.1	Recognise known problems that occur during the operation
		6.2	Identify and take action on causes of routine problems
		6.3	Log problems as required
		6.4	Identify non-routine process and quality problems and take appropriate action

Foundation Skills

This section describes those required skills (language, literacy and numeracy) 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.

Applicable legislation, regulations, standards and codes of practice include:

- health, safety and environmental (HSE) legislation, regulations and codes of practice relevant to the workplace, manual handling and hazardous materials
- Australian/international standards relevant to the materials being used and products being made

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- any relevant licence and certification requirements.

All operations to which this unit applies are subject to stringent HSE requirements, which may be imposed through state/territory or federal legislation, and these must not be compromised at any time. Where there is an apparent conflict between performance criteria and such requirements the legislative requirements take precedence.

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 any combination of:

- 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:

- hand carts and trolleys
- knives and other bag opening equipment
- hoists/lifting equipment not requiring any special permits or licences
- bung spanners and similar
- basic hand tools required for opening of material packaging
- relevant personal protective equipment (PPE).

Problems

Routine problems must be resolved by applying known solutions.

Routine problems are predictable and include one or more of:

- equipment malfunction
- non-supply or incorrect supply of materials
- use of incorrect materials
- variations in materials
- contamination of materials
- incorrect quantity of materials/additives.

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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.

Hazards

Hazards must be identified and controlled. Identifying hazards requires consideration of:

- heat, smoke, dust, vapours or other atmospheric hazards
- hazardous products and materials
- sharp edges, protrusions or obstructions
- slippery surfaces, spills or leaks
- electricity
- gas
- gases and liquids under pressure
- structural hazards
- equipment failures
- rotational equipment or vibration
- machinery, equipment and product mass
- limited head spaces or overhangs
- working at heights
- working in restricted or confined spaces
- other hazards that might arise.

Unit Mapping Information

Release 1. Supersedes and is equivalent to PMBPREP205C Assemble materials and equipment for production

Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=932aacef-7947-4c80-acc6-593719fe4090

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Assessment Requirements for PMBPREP205 Assemble materials and equipment for production

Modification History

Release 1. Supersedes and is equivalent to PMBPREP205C Assemble materials and equipment for 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 demonstrate the ability to:

- read and interpret procedures, job specifications, material labels and safety data sheets (SDS)
- select and use tools and equipment to meet job specifications
- locate and organise delivery of required materials and equipment
- sequence and arrange placement of materials and equipment for production
- store materials according to requirements
- identify hazards and apply relevant hazard controls
- apply safety procedures
- apply housekeeping procedures
- apply waste management procedures
- recognise routine and non-routine problems
- identify when the operator is able to rectify faults, when assistance is required and who is the appropriate source for assistance
- take action to resolve faults or report faults to appropriate personnel
- distinguish between possible causes of routine faults, including:
  - raw material variations
  - contamination of raw material
  - process problems
  - mechanical abnormalities
  - misreading labels, instructions, safety data sheets
- communicate effectively with team/work group and supervisors
- complete workplace records
- do basic arithmetical manipulations including additions, subtractions, divisions, fractions and percentages.

Knowledge Evidence

Must provide evidence that demonstrates knowledge relevant to their job sufficient to operate under routine only supervision and to solve routine problems, including knowledge of:

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- types and application of common polymer materials
- definitions of thermoplastics and thermosetting materials
- trade names of common plastic materials
- formulas of common plastics
- common end use examples of plastics and common family names
- routine and non-routine problems that may arise, the range of possible causes and processes to develop solutions
- impact of incorrect or faulty materials
- organisation procedures relevant to the work environment/job role
- hierarchy of control
- hazards that may arise in the job/work environment and:
  - their possible causes
  - potential consequences
  - appropriate risk controls.

Assessment Conditions

- The unit should be assessed holistically and the judgement of competence shall be based on a holistic assessment of the evidence.
- In all plants it may be appropriate to assess this unit concurrently with units such as:
  - teamwork
  - communication.
- 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 or other evidence, 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 industry 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 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.
- Assessment in a simulated environment should use evidence collected from demonstration of skills and one or more of:
  - walk-throughs
  - pilot plant operation

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  - industry-based case studies/scenarios
  - ‘what ifs’.
- Knowledge evidence may be collected concurrently with performance evidence or through an independent process, such as workbooks, written assessments or interviews.
- 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.
- Assessors must satisfy the assessor competency requirements that are in place at the time of the assessment as set by the VET regulator.
- In addition the assessor or anyone acting in subject matter expert role in assessment shall demonstrate both technical competency and currency. If the assessor cannot demonstrate technical competency and currency they shall assess with a subject matter expert who does meet these requirements.
- Technical competence can be demonstrated through one or more of:
  - relevant VET or other qualification/Statement of Attainment
  - appropriate workplace experience undertaking the type of work being assessed under routine and non-routine conditions
  - appropriate workplace experience supervising/evaluating the type of work being assessed under routine and non-routine conditions
- Currency can be demonstrated through one or more of:
  - being currently employed undertaking the type of work being assessed
  - being employed by the organisation undertaking the type of work being assessed and having maintained currency in accordance with that organisation’s policies and procedures
  - having consulted/had contact with an organisation undertaking the type of work being assessed within the last twelve months, the consultation/contact being related to assessment
  - conducting on the job training/assessments of the type of work being assessed
  - being an active member of a relevant professional body and participating in activities relevant to the assessment of this type of work.

Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=932aacef-7947-4c80-acc6-593719fe4090

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PMBPREP206 Prepare materials to formulae

Modification History

Release 1. Supersedes and is equivalent to PMBPREP206C Prepare materials to formulae

Application

This unit of competency covers the skills and knowledge required to prepare materials to formulae for production or product finishing.

This unit of competency applies to production support operators or those in similar roles who are required to plan the work sequence, measure and combine ingredients according to formulae, minimise/eliminate contamination risk, and recognise routine and non-routine problems and take appropriate action.

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, team leader and supervisor, as appropriate.

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

Pre-requisite Unit

Nil

Competency Field

Preparation

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	**Identify**	1.1 Read and interpret specifications for materials and

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	requirements to handle materials		identify materials
		1.2	Identify units of measurement and matching measuring equipment
		1.3	Know the tolerances of measuring equipment and relate them to the impact of over/under measurement of ingredients on production process and quality
		1.4	Follow procedures to identify and control hazards
		1.5	Read workplace procedures and use them to plan work sequence
2	**Prepare for assembly of ingredients**	2.1	Calibrate or zero equipment for measurement and/or identify appropriate measurement scales
		2.2	Set up and fit required personal protective equipment (PPE) and engineering controls
		2.3	Assemble equipment for dealing with emergencies
		2.4	Check work area for cleanliness
		2.5	Identify sources of potential contamination and take steps to minimise/eliminate contamination risk
3	**Assemble ingredients**	3.1	Collect ingredients
		3.2	Weigh/measure ingredients according to procedure
		3.3	Follow appropriate workplace approved sequence for combination of materials
		3.4	Follow standard operating procedures (SOPs) and observe appropriate safety measures when conducting work
		3.5	Check for correctness of colour to standard
		3.6	Take action specified in procedures if materials/assembled ingredients do not appear to meet requirements
		3.7	Complete workplace records

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		3.8	Store unused ingredients, and clean and store equipment
4	**Respond to routine problems to procedures**	4.1	Recognise known 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 required skills (language, literacy and numeracy) 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.

Applicable legislation, regulations, standards and codes of practice include:

- health, safety and environmental (HSE) legislation, regulations and codes of practice relevant to the workplace and hazardous materials
- Australian/international standards relevant to the materials being used and products being made
- any relevant licence and certification requirements.

- All operations to which this unit applies are subject to stringent HSE requirements, which may be imposed through state/territory or federal legislation, and these must not be compromised at any time. Where there is

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an apparent conflict between performance criteria and such requirements the legislative requirements take precedence.

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 any combination of:

- emergency procedures
- work instructions
- 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:

- measurement equipment.

Additional tools and equipment will be selected as required from:

- 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 PPE.

Hazards

Hazards must be identified and controlled. Identifying hazards requires consideration of:

- weight, shape, volume of materials to be handled
- hazardous products and materials
- sharp edges, protrusions or obstructions
- slippery surfaces, spills or leaks
- heat, smoke, dust, vapours or other atmospheric hazards
- high temperatures
- electricity
- gas
- gases and liquids under pressure
- structural hazards
- equipment failures
- machinery, equipment and product mass

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- 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:

- incorrect raw materials being used
- contamination of raw materials
- incorrect formulae being selected
- incorrect mixing techniques and/or order of adding ingredients
- cleanliness of the mixing area and/or utensils
- combining inappropriate materials
- variations in materials
- variations in quality of mixture.

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 PMBPREP206C Prepare materials to formulae

Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=932aacef-7947-4c80-acc6-593719fe4090

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Assessment Requirements for PMBPREP206 Prepare materials to formulae

Modification History

Release 1. Supersedes and is equivalent to PMBPREP206C Prepare materials to formulae

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 procedures, job specifications, material labels and safety data sheets (SDS)
- select and use materials, tools and equipment to meet job specifications
- weigh/measure, combine and mix ingredients according to procedures
- check the work and identify conformance and/or non-conformance to specifications
- identify hazards and apply relevant hazard controls
- apply safety procedures
- apply housekeeping procedures
- apply waste management procedures
- recognise routine and non-routine problems
- identify when the operator is able to rectify problems, when assistance is required and who is the appropriate source for assistance
- take action to resolve faults or report problems to appropriate personnel
- distinguish between possible causes of routine problems, including:
  - characteristics of materials
  - contamination
  - atmospheric conditions
  - process/procedural problems
  - mechanical abnormalities
- communicate effectively with team/work group and supervisors
- complete workplace records
- use measuring systems, scales and calculating devices
- do basic arithmetical manipulations, including additions, subtractions, divisions, fractions and percentages.

Knowledge Evidence

Must provide evidence that demonstrates knowledge relevant to their job sufficient to operate under routine only supervision and to solve routine problems, including knowledge of:

- types, applications and compositions of materials commonly used in formulae

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- tolerances of measuring equipment and the impact of over/under measurement of ingredients on production process and quality
- sources of contamination that may affect formulae and how to eliminate them
- routine and non-routine problems that may arise, the range of possible causes and appropriate actions
- impact of incorrect or faulty materials on formulae
- organisation procedures relevant to the work environment/job role
- hierarchy of control
- hazards that may arise in the job/work environment and:
  - their possible causes
  - potential consequences
  - appropriate risk controls.

Assessment Conditions

- The unit should be assessed holistically and the judgement of competence shall be based on a holistic assessment of the evidence.
- In all plants it may be appropriate to assess this unit concurrently with units such as:
  - teamwork
  - communication.
- 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 or other evidence, 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 industry appropriate materials, 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 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.
- Assessment in a simulated environment should use evidence collected from demonstration of skills and one or more of:
  - walk-throughs
  - pilot plant operation
  - industry-based case studies/scenarios
  - ‘what ifs’.

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- Knowledge evidence may be collected concurrently with performance evidence or through an independent process, such as workbooks, written assessments or interviews.
- 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.
- Assessors must satisfy the assessor competency requirements that are in place at the time of the assessment as set by the VET regulator.
- In addition the assessor or anyone acting in subject matter expert role in assessment shall demonstrate both technical competency and currency. If the assessor cannot demonstrate technical competency and currency they shall assess with a subject matter expert who does meet these requirements.
- Technical competence can be demonstrated through one or more of:
  - relevant VET or other qualification/Statement of Attainment
  - appropriate workplace experience undertaking the type of work being assessed under routine and non-routine conditions
  - appropriate workplace experience supervising/evaluating the type of work being assessed under routine and non-routine conditions
- Currency can be demonstrated through one or more of:
  - being currently employed undertaking the type of work being assessed
  - being employed by the organisation undertaking the type of work being assessed and having maintained currency in accordance with that organisation’s policies and procedures
  - having consulted/had contact with an organisation undertaking the type of work being assessed within the last twelve months, the consultation/contact being related to assessment
  - conducting on the job training/assessments of the type of work being assessed
  - being an active member of a relevant professional body and participating in activities relevant to the assessment of this type of work.

Links

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PMBPREP304 Set a die

Modification History

Release 1. Supersedes and is equivalent to PMBPREP304C Set a die

Application

This unit of competency covers the skills and knowledge required to remove, refit and set simple dies as used in injection moulding, blow moulding and similar processes.

This unit of competency is typically performed by experienced operators or those in similar roles who are required to select dies, tools and parts required for the die changeover, plan and make the changeover, set the machine conditions and check and fine tune settings to meet specifications.

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, team leader and supervisor, as appropriate.

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

Pre-requisite Unit

Nil

Competency Field

Preparation

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	**Prepare to**	1.1 Determine when changeover will be required, and plan

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	change dies		requirements for die change
		1.2	Obtain dies and/or cores and all parts and tools to match the production order
		1.3	Follow procedure for machine close-down and for informing relevant personnel
		1.4	Take last-off samples as required for die reports
		1.5	Close down machine in accordance with procedures
		1.6	Prepare machine for changeover in accordance with procedures
2	**Change dies**	2.1	Plan removal process to ensure no damage to self, equipment or others
		2.2	Remove, clean and store die according to workplace procedures applying corrosion protection if required
		2.3	Attach replacement die ensuring that locating devices and marks are matched and securing devices are installed and tightened to specification
3	**Set dies**	3.1	Set machine conditions for new die
		3.2	Restart machine according to procedure
		3.3	Dry cycle machine and die according to enterprise procedures
		3.4	Check operation of die against product quality specifications
		3.5	Check the first-off sample for compliance with required standards
		3.6	Fine tune settings and other production variables as required
		3.7	Note any equipment variances between actual production and documented set-up conditions
		3.8	Complete workplace documentation and report to appropriate personnel

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4	**Anticipate die setting problems**	4.1	Identify potential problems which may occur during the die changing and setting process
		4.2	Determine possible causes of these problems
		4.3	Identify most likely causes and prioritise appropriate actions
		4.4	Rectify problems using appropriate solutions within area of responsibility
		4.5	Recommend improvements in systems or procedures

Foundation Skills

This section describes those required skills (language, literacy and numeracy) 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.

Applicable legislation, regulations, standards and codes of practice include:

- health, safety and environmental (HSE) legislation, regulations and codes of practice relevant to the workplace, manual handling and hazardous materials
- Australian/international standards relevant to the materials being used and products being made
- any relevant licence and certification requirements.

All operations to which this unit applies are subject to stringent HSE

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requirements, which may be imposed through state/territory or federal legislation, and these must not be compromised at any time. Where there is an apparent conflict between performance criteria and such requirements the legislative requirements take precedence.

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 any combination of:

- 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.

Simple die For the purposes of this Training Package a simple die is a two-plate die used to give the required shape to the product and used under pressure to produce simple, straight drawn items. It includes any ejection system operating in the mould open axis.

The following are not considered simple dies:

- dies which are not subject to pressure (these are referred to as moulds in this Training Package)
- two- or three-plate dies with one or more product forming components which move in a direction other than the mould open axis, and which are driven by the mould rather than external actuation
- moulds with molten material retained within the mould between cycles.

Setting Setting machine conditions for the replacement die must be relevant to the type of equipment/process being used and includes one or more of:

- mould height on the machine
- clamp force
- mould safety system
- ejector system
- mould opening and closing distances, speeds and forces
- injection unit.

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These settings may be performed automatically by using an electronic storage device to load settings from a previous run of the product or may be performed by manually setting controls individually.

Tools and equipment

Tools and equipment include one or more of:

- hand carts and trolleys
- hoists/lifting equipment not requiring any special permits or licences
- basic hand tools
- relevant personal protective equipment (PPE).

Hazards

Hazards must be identified and controlled. Identifying hazards requires consideration of:

- weight, shape, volume of materials to be handled
- hazardous products and materials
- hot surfaces
- sharp edges, protrusions or obstructions
- slippery surfaces, spills or leaks
- heat, smoke, dust, vapours or other atmospheric hazards
- electricity
- gas
- gases and liquids under pressure
- structural hazards
- equipment failures
- machinery, equipment and product mass
- other hazards that might arise

Non-routine problems

Non-routine problems must be resolved by applying operational knowledge to develop new solutions, either individually or in collaboration with relevant experts, to:

- determine problems needing action
- determine possible fault causes
- develop solutions to problems which do not have a known solution
- follow through items initiated until final resolution has occurred
- report problems outside area of responsibility to designated person.

Non-routine problems are unexpected problems or variations of previous problems and include one or more of:

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- corrosion of die surface and/or cooling channels
- poor alignment of die
- movement during production
- faulty components
- machine malfunction
- variation in product.

Operational knowledge includes one or more of:

- procedures
- training
- technical information such as journals, engineering specifications
- remembered experience
- relevant knowledge obtained from appropriate people.

Unit Mapping Information

Release 1. Supersedes and is equivalent to PMBPREP304C Set a die

Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=932aacef-7947-4c80-acc6-593719fe4090

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Assessment Requirements for PMBPREP304 Set a die

Modification History

Release 1. Supersedes and is equivalent to PMBPREP304C Set a die

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 procedures and job specifications
- remove, clean and store die according to procedures
- select dies, cores, parts and tools and install replacement die to meet specifications
- set machine conditions for new die
- check the installation and operation of new die to identify conformance and/or non-conformance to specifications
- make adjustments to settings and equipment operation to rectify variations in equipment operation or product quality
- identify hazards and apply relevant hazard controls
- distinguish between causes of problems/alarm/fault indications, such as:
  - operational problems
  - instrument failure/malfunction
  - electrical failure/malfunction
  - mechanical failure/malfunction
  - wrong readings
  - equipment design deficiencies
  - product parameters (temperature, flows, pressure and levels)
- resolve non-routine problems
- communicate effectively with team/work group and supervisors
- complete workplace records
- do basic arithmetical manipulations, including additions, subtractions, divisions, fractions and percentages.

Knowledge Evidence

Must provide evidence that demonstrates knowledge relevant to their job sufficient to fulfil their job role, including knowledge of:

- construction of simple dies and their components, including fixed and removable cores, inserts, ejection systems and vents
- methods of connecting dies to machines
- impact of incorrect or faulty fitting

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- function of machine settings and appropriate ranges of settings for specific dies
- routine and non-routine problems that may arise, the range of possible causes and appropriate actions
- organisation procedures relevant to the work environment/job role
- hierarchy of control
- hazards that may arise in the job/work environment and:
  - their possible causes
  - potential consequences
  - appropriate risk controls.

Assessment Conditions

- The unit should be assessed holistically and the judgement of competence shall be based on a holistic assessment of the evidence.
- In all plants it may be appropriate to assess this unit concurrently with units such as:
  - teamwork
  - communication.
- 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 or other evidence, 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 industry appropriate materials, 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 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.
- Assessment in a simulated environment should use evidence collected from demonstration of skills and one or more of:
  - walk-throughs
  - pilot plant operation
  - industry-based case studies/scenarios
  - ‘what ifs’.
- Knowledge evidence may be collected concurrently with performance evidence or through an independent process, such as workbooks, written assessments or interviews.

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- 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.
- Assessors must satisfy the assessor competency requirements that are in place at the time of the assessment as set by the VET regulator.
- In addition the assessor or anyone acting in subject matter expert role in assessment shall demonstrate both technical competency and currency. If the assessor cannot demonstrate technical competency and currency they shall assess with a subject matter expert who does meet these requirements.
- Technical competence can be demonstrated through one or more of:
  - relevant VET or other qualification/Statement of Attainment
  - appropriate workplace experience undertaking the type of work being assessed under routine and non-routine conditions
  - appropriate workplace experience supervising/evaluating the type of work being assessed under routine and non-routine conditions
- Currency can be demonstrated through one or more of:
  - being currently employed undertaking the type of work being assessed
  - being employed by the organisation undertaking the type of work being assessed and having maintained currency in accordance with that organisation’s policies and procedures
  - having consulted/had contact with an organisation undertaking the type of work being assessed within the last twelve months, the consultation/contact being related to assessment
  - conducting on the job training/assessments of the type of work being assessed
  - being an active member of a relevant professional body and participating in activities relevant to the assessment of this type of work.

Links

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PMBPROD236 Operate hand held air/power equipment for production processes

Modification History

Release 1. Supersedes and is equivalent to PMBPROD236C Operate hand held air/power equipment for production processes

Application

This unit of competency covers the skills and knowledge required to operate hand held air or power equipment as typically used in the assembly and finishing of components in a production process.

This unit of competency applies to operators who are required to select equipment and materials, apply procedures for checking, maintaining and using the equipment and recognise routine and non-routine problems and take appropriate action.

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, team leader and supervisor, as appropriate.

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

Pre-requisite Unit

Nil

Competency Field

Production

Unit Sector

Not applicable

Elements and Performance Criteria

Elements describe the Performance criteria describe the performance needed to

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essential outcomes.		demonstrate achievement of the element.	
1	**Identify equipment and power requirements**	1.1	Match appropriate equipment for drilling, cutting and grinding to work applications
		1.2	Choose correct power and air sources, identifying and selecting correct voltage, amperage and air pressure
		1.3	Select correct lubrication and/or water separation equipment as required
		1.4	Inspect equipment for signs of damage or faults
		1.5	Select correct accessories in terms of suitability for purpose and operable condition
2	**Follow emergency shutdown procedures**	2.1	Identify the circumstances which would justify an emergency shutdown of equipment
		2.2	Identify appropriate switches and/or other shutoff apparatus
		2.3	Shut down equipment in an emergency
		2.4	Complete reporting required following an emergency shutdown
3	**Control hazards associated with using the equipment**	3.1	Identify potential hazards arising from power sources and/or compressed air
		3.2	Recognise process by-products which may cause damage to the operator, environment, products, raw materials, other equipment or personnel
		3.3	Follow procedures to control hazards
4	**Set up equipment according to procedures**	4.1	Check equipment settings, accessories and consumables for acceptable condition
		4.2	Check equipment for sharpness/wear as appropriate
		4.3	Use manufacturer or workplace instructions for equipment as the basis of work practices

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		4.4	Correctly set up equipment for the required production process
		4.5	Check equipment through the full operating range required for the task
5	**Use equipment for production processes**	5.1	Operate equipment within the parameters of the manufacturer or workplace instructions
		5.2	Use appropriate consumables, including cooling and lubricating fluids, where required
		5.3	Deal with dust, swarf, off cuts and other production by-products and waste
6	**Shut down equipment according to procedure**	6.1	Shut down equipment as required
		6.2	Dispose of any dust, swarf, off cuts and other production by-products and waste
7	**Store equipment appropriately**	7.1	Clean equipment prior to storage
		7.2	Tag or take appropriate steps to arrange repair or servicing of equipment as required
		7.3	Maintain storage areas to workplace standards
8	**Respond to routine problems to procedures**	8.1	Recognise known faults that occur during the operation
		8.2	Identify and take action on causes of routine faults
		8.3	Log problems as required
		8.4	Identify non-routine process and quality problems and take appropriate action

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Foundation Skills

This section describes those required skills (language, literacy and numeracy) 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.

Applicable legislation, regulations, standards and codes of practice include:

- health, safety and environmental (HSE) legislation, regulations and codes of practice relevant to the workplace, equipment and production processes and hazardous materials
- Australian/international standards relevant to the materials being used and products being made
- any relevant licence and certification requirements.

All operations to which this unit applies are subject to stringent HSE requirements, which may be imposed through state/territory or federal legislation, and these must not be compromised at any time. Where there is an apparent conflict between performance criteria and such requirements the legislative requirements take precedence.

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 any combination of:

- emergency procedures
- work instructions
- standard operating procedures (SOPs)
- safe work method statements (SWMS)
- formulae/recipes

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- 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 portable air or power operated:

- impact wrench
- drill
- grinder
- cutter
- saw.

Additional tools and equipment will be selected as required from:

- bolts, screws, rivets, and so on
- vices, clamps and braces
- work stands
- hand tools
- hoists/lifting equipment not requiring any special permits or licences
- manual handling aids, such as hand carts and trolleys
- relevant personal protective equipment (PPE).

Hazards

Hazards must be identified and controlled. Identifying hazards requires consideration of:

- frayed cables/hoses
- dusts/swarf
- blades and cutting equipment
- metal and other shavings
- weight, shape and volume of materials to be handled
- hazardous products and materials
- sharp edges, protrusions or obstructions
- slippery surfaces, spills or leaks
- rotational equipment or vibration
- smoke, dust, vapours or other atmospheric hazards
- electricity
- gas
- gases and liquids under pressure
- structural hazards
- equipment failures
- machinery, equipment and product mass
- other hazards that might arise.

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Routine problems

Routine problems must be resolved by applying known solutions.

Routine problems are predictable and include one or more of:

- tool malfunctions
- damaged leads or hoses
- incorrect tool selected
- worn or blunt tools/tool bits
- damaged/faulty tools
- non-supply of components or fittings
- incorrect supply of components or fittings
- material failures
- out-of-specification products.

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 PMBPROD236C Operate hand held air/power equipment for production processes

Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=932aacef-7947-4c80-acc6-593719fe4090

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Assessment Requirements for PMBPROD236 Operate hand held air/power equipment for production processes

Modification History

Release 1. Supersedes and is equivalent to PMBPROD236C Operate hand held air/power equipment for production processes

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 procedures, job specifications, material labels and safety data sheets (SDS)
- select and use tools, equipment and materials to meet job specifications
- set up, operate and shut down the portable air or power tools/equipment to procedures
- monitor key variables, including:
  - tool speeds
  - tool mass
  - operating mediums
  - condition of tools
  - useability
  - cleanliness
- operate and adjust the equipment to meet product quality and production output specifications
- clean and store tools/equipment to procedures
- identify hazards and apply relevant hazard controls
- apply safety procedures
- apply housekeeping procedures
- apply waste management procedures
- recognise early warning signs of equipment/processes needing attention or with potential problems
- recognise routine and non-routine problems
- identify when the operator is able to rectify faults, when assistance is required and who is the appropriate source for assistance
- take action to resolve faults or report faults to appropriate personnel
- distinguish between possible causes of routine faults, including:
  - incorrect type and/or quantity of materials
  - procedural errors
  - blunt or worn tools

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  - power failures
  - tool malfunction/failures
- communicate effectively with team/work group and supervisors
- complete workplace records
- do basic arithmetical manipulations, including additions, subtractions, divisions, multiplications, fractions and percentages.

Knowledge Evidence

Must provide evidence that demonstrates knowledge relevant to their job sufficient to operate under routine only supervision and to solve routine problems, including knowledge of:

- types and application of common air and power equipment/tools
- function of the air or power equipment being used
- principles of operation of the equipment
- the potential effects of variations in raw materials and equipment operation in relation to quality of product
- production workflow sequences and materials demand
- factors which may affect product quality or production output and appropriate remedies
- routine problems, their probable causes and relevant corrective actions
- organisation procedures relevant to the work environment/job role
- hierarchy of control
- hazards that may arise in the job/work environment and:
  - their possible causes
  - potential consequences
  - appropriate risk controls.

Assessment Conditions

- The unit should be assessed holistically and the judgement of competence shall be based on a holistic assessment of the evidence.
- In all plants it may be appropriate to assess this unit concurrently with units such as:
  - teamwork
  - communication.
- The collection of performance evidence:
  - should occur over a range of situations which include typical disruptions to normal, smooth operation of an operating plant
  - will typically include a supervisor/third-party report or other evidence, 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 an appropriate industrial item of equipment requiring demonstration of operation, start and stop procedures and responding to problems

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  - 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 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.
- Assessment in a simulated environment should use evidence collected from demonstration of skills and one or more of:
  - walk-throughs
  - pilot plant operation
  - industry-based case studies/scenarios
  - ‘what ifs’.
- Knowledge evidence may be collected concurrently with performance evidence or through an independent process, such as workbooks, written assessments or interviews.
- 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.
- Assessors must satisfy the assessor competency requirements that are in place at the time of the assessment as set by the VET regulator.
- In addition the assessor or anyone acting in subject matter expert role in assessment shall demonstrate both technical competency and currency. If the assessor cannot demonstrate technical competency and currency they shall assess with a subject matter expert who does meet these requirements.
- Technical competence can be demonstrated through one or more of:
  - relevant VET or other qualification/Statement of Attainment
  - appropriate workplace experience undertaking the type of work being assessed under routine and non-routine conditions
  - appropriate workplace experience supervising/evaluating the type of work being assessed under routine and non-routine conditions
- Currency can be demonstrated through one or more of:
  - being currently employed undertaking the type of work being assessed
  - being employed by the organisation undertaking the type of work being assessed and having maintained currency in accordance with that organisation’s policies and procedures

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- having consulted/had contact with an organisation undertaking the type of work being assessed within the last twelve months, the consultation/contact being related to assessment
- conducting on the job training/assessments of the type of work being assessed
- being an active member of a relevant professional body and participating in activities relevant to the assessment of this type of work.

Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=932aacef-7947-4c80-acc6-593719fe4090

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PMBPROD240 Cut materials

Modification History

Release 1. Supersedes and is equivalent to PMBPROD240C Cut materials

Application

This unit of competency covers the skills and knowledge required to use specialised equipment or procedures to cut materials to size, shape or to a pattern.

This unit of competency applies to operators who are required to identify the requirements for the job, prepare material and equipment for the work, operate cutting tools/equipment, and recognise routine and non-routine problems and take appropriate action.

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, team leader and supervisor, as appropriate.

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

Pre-requisite Unit

Nil

Competency Field

Production

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 work**	1.1	Identify work requirements from procedures

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	requirements	1.2	Identify product, materials and equipment requirements for job
		1.3	Recognise hazards and adopt steps required to ensure safety
		1.4	Check with supervisor/appropriate person if requirements are not in accordance with usual practice
2	**Conduct pre-start checks as required**	2.1	Check safety gates and guards are in position and working
		2.2	Check raw materials are correct
		2.3	Undertake other pre-start checks in accordance with procedures
3	**Use tools/equipment**	3.1	Operate cutting tools/equipment to cut materials to procedures
		3.2	Monitor dimensions, quality and quantity of cuts
		3.3	Remedy faults and non-conformances by correcting operation or adjusting tools/equipment as required
		3.4	Collect material which is able to be recycled or reused, separate and dispose of waste and scrap
4	**Resolve routine problems**	4.1	Identify likely faults that occur during the operation/task
		4.2	Identify and take action on causes of routine faults in accordance with procedures
		4.3	Make sure appropriate records and log books of equipment operations are maintained to meet procedures
		4.4	Identify non-routine problems and report to designated person

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Foundation Skills

This section describes those required skills (language, literacy and numeracy) 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.

Applicable legislation, regulations, standards and codes of practice include:

- health, safety and environmental (HSE) legislation, regulations and codes of practice relevant to the workplace, equipment and production processes and hazardous materials
- Australian/international standards relevant to the materials being used and products being made
- any relevant licence and certification requirements.

All operations to which this unit applies are subject to stringent HSE requirements, which may be imposed through state/territory or federal legislation, and these must not be compromised at any time. Where there is an apparent conflict between performance criteria and such requirements the legislative requirements take precedence.

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 any combination of:

- emergency procedures
- work instructions
- standard operating procedures (SOPs)
- safe work method statements (SWMS)
- formulas/recipes

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- 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:

- guillotines
- power saws
- jig saws
- band saws
- thermal cutting devices
- programmable logic controllers (PLC) if fitted.

Additional tools and equipment will be selected as required from:

- hand tools
- hoists/lifting equipment not requiring any special permits or licences
- manual handling aids, such as hand carts and trolleys
- relevant personal protective equipment (PPE).

Hazards

Hazards must be identified and controlled. Identifying hazards requires consideration of:

- blades and cutting equipment
- weight, shape, volume of materials to be handled
- hazardous products and materials
- sharp edges, protrusions or obstructions
- slippery surfaces, spills or leaks
- rotational equipment or vibration
- smoke, dust, vapours or other atmospheric hazards
- electricity
- gas
- gases and liquids under pressure
- structural hazards
- equipment failures
- machinery, equipment and product mass
- other hazards that might arise.

Routine problems

Routine problems must be resolved by applying known solutions.

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Routine problems are predictable and include one or more of:

- incorrect pattern, marking errors
- equipment wear or breakage
- variations in temperature
- loss of power or drives
- controller sequence or timer issues.

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 PMBPROD240C Cut materials

Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=932aacef-7947-4c80-acc6-593719fe4090

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Assessment Requirements for PMBPROD240 Cut materials

Modification History

Release 1. Supersedes and is equivalent to PMBPROD240C Cut 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 and demonstrate the ability to:

- read and interpret procedures, job specifications, material labels and safety data sheets (SDS)
- select and use tools, equipment and materials to meet job specifications
- conduct pre-start checks
- operate and shut down the cutting tools/equipment to cut materials to procedures
- monitor key variables, including:
  - material characteristics
  - material availability
  - dimensions, quality and quantity of cuts
  - type of cutting equipment
  - cutting edge condition
- operate the equipment and make adjustments to meet product quality and production output specifications
- identify hazards and apply relevant hazard controls
- apply safety procedures
- apply housekeeping procedures
- apply waste management procedures
- recognise early warning signs of equipment/processes needing attention or with potential problems
- recognise routine and non-routine problems
- identify when the operator is able to rectify faults, when assistance is required and who is the appropriate source for assistance
- take action to resolve faults or report faults to appropriate personnel
- distinguish between possible causes of routine faults, including:
  - deficiencies in materials
  - procedural errors
  - blunt or worn tools
  - power failures
  - tool malfunction/failures
  - equipment adjustments/set-up
  - changes to materials during the cutting process

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- communicate effectively with team/work group and supervisors
- complete workplace records
- do basic arithmetical manipulations, including additions, subtractions, divisions, multiplications, fractions and percentages.

Knowledge Evidence

Must provide evidence that demonstrates knowledge relevant to their job sufficient to operate under routine only supervision and to solve routine problems including knowledge of:

- types of materials that commonly require cutting in the sector and their behaviour when cut
- types of cutting equipment commonly used and their suitability for different materials
- function of the cutting tools/equipment being used
- principles of operation of the equipment
- the potential effects of variations in raw materials and equipment operation in relation to quality of product
- factors which may affect product quality or production output and appropriate remedies
- routine problems, their probable causes and relevant corrective actions
- organisation procedures relevant to the work environment/job role
- hierarchy of control
- hazards that may arise in the job/work environment and:
  - their possible causes
  - potential consequences
  - appropriate risk controls.

Assessment Conditions

- The unit should be assessed holistically and the judgement of competence shall be based on a holistic assessment of the evidence.
- In all plants it may be appropriate to assess this unit concurrently with units such as:
  - teamwork
  - communication.
- 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 or other evidence, 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 industry appropriate materials, tools, equipment, data and documentation

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  - 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 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.
- Assessment in a simulated environment should use evidence collected from demonstration of skills and one or more of:
  - walk-throughs
  - pilot plant operation
  - industry-based case studies/scenarios
  - 'what ifs'.
- Knowledge evidence may be collected concurrently with performance evidence or through an independent process, such as workbooks, written assessments or interviews.
- 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.
- Assessors must satisfy the assessor competency requirements that are in place at the time of the assessment as set by the VET regulator.
- In addition the assessor or anyone acting in subject matter expert role in assessment shall demonstrate both technical competency and currency. If the assessor cannot demonstrate technical competency and currency they shall assess with a subject matter expert who does meet these requirements.
- Technical competence can be demonstrated through one or more of:
  - relevant VET or other qualification/Statement of Attainment
  - appropriate workplace experience undertaking the type of work being assessed under routine and non-routine conditions
  - appropriate workplace experience supervising/evaluating the type of work being assessed under routine and non-routine conditions
- Currency can be demonstrated through one or more of:
  - being currently employed undertaking the type of work being assessed
  - being employed by the organisation undertaking the type of work being assessed and having maintained currency in accordance with that organisation's policies and procedures

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- having consulted/had contact with an organisation undertaking the type of work being assessed within the last twelve months, the consultation/contact being related to assessment
- conducting on the job training/assessments of the type of work being assessed
- being an active member of a relevant professional body and participating in activities relevant to the assessment of this type of work.

Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=932aacef-7947-4c80-acc6-593719fe4090

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PMBPROD241 Lay up rubber lining or lag pulleys

Modification History

Release 1. Supersedes and is equivalent to PMBPROD241C Lay up rubber lining or lag pulleys

Application

This unit of competency covers the skills and knowledge required to lay up rubber or similar materials to line vessels or components or to lag pulleys. Vessels and tanks are typically lined in order to retard abrasion, impact or corrosion. The re-lagging of pulleys for conveyors provides a positive drive.

This unit of competency applies to operators who are required to prepare materials and surfaces, plan and sequence the work, position, join and cure the lining/lagging and recognise routine and non-routine problems and take appropriate action.

The key factors are the preparation of the surfaces to be lined/lagged and the successful application of the rubber to the surfaces without contaminating the materials. This unit of competency is typically performed by operators working either independently or as part of a work team.

This unit of competency applies to lining/lagging that is carried out in a workshop or other off-site facility.

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

Pre-requisite Unit

Nil

Competency Field

Production

Unit Sector

Not applicable

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Elements and Performance Criteria

Elements describe the essential outcomes.		Performance criteria describe the performance needed to demonstrate achievement of the element.	
1	**Plan rubber lining or lagging work**	1.1	Review specifications and work order documentation
		1.2	Identify hazards and risk controls, including emergency evacuation and adequate ventilation, including breathing apparatus, where required
		1.3	Plan work, including materials, sequences, times and process stages
		1.4	Plan to minimise downtime, economically use materials and meet repair quality specifications
		1.5	Assemble equipment, tools and materials required, checking them for condition, quality and compliance tags
2	**Prepare surfaces for rubber lining or lagging**	2.1	Lay out materials in an appropriate contamination free area
		2.2	Ensure materials are clean and free of debris and damage
		2.3	Identify non-conforming materials and report, as required
		2.4	Examine component, vessel or pulley and ensure the surfaces to be lined or lagged are free of defects and contaminants
		2.5	Plan the sequence for application of the adhesives and materials
		2.6	Prepare lining or lagging surfaces
		2.7	Monitor surface coatings for setting time and manage the staggered supply of adhesives and materials, where appropriate
3	**Lay up rubber lining or lagging**	3.1	Ensure adequate ventilation is provided and monitored during the laying up process
		3.2	Monitor any confined space activity and conform to

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			regulations and procedures
		3.3	Position lining/lagging segments according to the lay-up plan
		3.4	Exclude entrapped air and ensure complete contact between the lining/lagging and surface is obtained
		3.5	Ensure joins are sealed and adhered properly with no gaps or overlaps
		3.6	Check for slips, sagging or other separation of the lining/lagging from the surface
		3.7	Ensure lining/lagging material is finished off as required at the extremities
		3.8	Cure rubber lining/lagging where appropriate
4	**Clean work area**	4.1	Clean, inspect and store tools and equipment used
		4.2	Tag unserviceable tools and equipment, identify faults and inform relevant personnel
		4.3	Clean work area and return to approved condition
		4.4	Dispose of waste or recycle according to procedures
		4.5	Complete appropriate workplace documentation
5	**Respond to routine problems to procedures**	5.1	Recognise known faults that occur during the operation
		5.2	Identify and take action on causes of routine faults
		5.3	Log problems as required
		5.4	Identify non-routine process and quality problems and take appropriate action

Foundation Skills

This section describes those required skills (language, literacy and numeracy) that are essential to performance.

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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.

Applicable legislation, regulations, standards and codes of practice include:

- health, safety and environmental (HSE) legislation, regulations and codes of practice relevant to the workplace, equipment and production processes and hazardous materials
- Australian/international standards relevant to the materials being used and products being made
- any relevant licence and certification requirements.

All operations to which this unit applies are subject to stringent HSE requirements, which may be imposed through state/territory or federal legislation, and these must not be compromised at any time. Where there is an apparent conflict between performance criteria and such requirements the legislative requirements take precedence.

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 any combination of:

- emergency procedures
- work instructions
- standard operating procedures (SOPs)
- safe work method statements (SWMS)
- formulae/recipes
- batch sheets
- temporary instructions
- any similar instructions provided for the smooth running of the plant.

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Tools and equipment

Tools and equipment include one or more of:

- hand tools (e.g. spanners, wrenches and hammers)
- knives and other trimming devices
- hoists/lifting equipment not requiring any special permits or licences
- rollers and other surface compression tools
- ventilation equipment (e.g. fans)
- relevant personal protective equipment (PPE).

Hazards

Hazards must be identified and controlled. Identifying hazards requires consideration of:

- confined spaces
- working at heights
- blades and cutting equipment
- weight, shape, volume of materials to be handled
- hazardous products and materials
- sharp edges, protrusions or obstructions
- slippery surfaces, spills or leaks
- rotational equipment or vibration
- smoke, dust, vapours or other atmospheric hazards
- electricity
- gas
- gases and liquids under pressure
- structural hazards
- equipment failures
- machinery, equipment and product mass
- 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:

- variations in materials
- incorrectly cut material shapes
- contamination of materials
- contamination of the surfaces to be lined or lagged
- physical size and complexity of some components
- entrapped air
- gaps between lining segments

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- inappropriate laps or joins.

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 PMBPROD241C Lay up rubber lining or lag pulleys

Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=932aacef-7947-4c80-acc6-593719fe4090

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Assessment Requirements for PMBPROD241 Lay up rubber lining or lag pulleys

Modification History

Release 1. Supersedes and is equivalent to PMBPROD241C Lay up rubber lining or lag pulleys

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 procedures, job specifications, material labels and safety data sheets (SDS)
- select and use tools, equipment and materials to meet job specifications
- prepare surfaces, adhesives and materials
- lay up, join and cure lining or lagging to meet specifications
- monitor equipment operation
- monitor key variables, including:
  - compatibility of materials, adhesives, solvents and cleaning agents
  - cleanliness and condition of lining/lagging materials
  - effect of surface condition of the component on the quality of the lining/lagging
- identify hazards and apply relevant hazard controls
- apply safety procedures
- apply housekeeping procedures
- apply waste management procedures
- recognise routine and non-routine problems
- identify when the operator is able to rectify faults, when assistance is required and who is the appropriate source for assistance
- take action to resolve faults or report faults to appropriate personnel
- distinguish between possible causes of routine faults, including:
  - wrong raw materials/additives/catalyst
  - incorrect quantity of materials/additives/catalyst
  - contaminated materials/additives/catalyst
  - procedural errors
  - equipment malfunction/failures
- communicate effectively with team/work group and supervisors
- complete workplace records
- do basic arithmetical manipulations, including additions, subtractions, divisions and multiplications
- make and interpret measurements and shapes.

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Knowledge Evidence

Must provide evidence that demonstrates knowledge relevant to their job sufficient to operate under routine only supervision and to solve routine problems, including knowledge of:

- types of adhesives, additives and catalysts commonly used in lining or lagging and their suitability for different materials and applications
- the potential effects of variations in raw materials and equipment operation in relation to quality of product
- factors which may affect product quality or production output and appropriate remedies
- routine problems, their probable causes and relevant corrective actions
- organisation procedures relevant to the work environment/job role
- hierarchy of control
- hazards that may arise in the job/work environment and:
  - their possible causes
  - potential consequences
  - appropriate risk controls.

Assessment Conditions

- The unit should be assessed holistically and the judgement of competence shall be based on a holistic assessment of the evidence.
- In all plants it may be appropriate to assess this unit concurrently with units such as:
  - teamwork
  - communication.
- 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 or other evidence, 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 industry appropriate materials, 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 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.
- Assessment in a simulated environment should use evidence collected from demonstration of skills and one or more of:

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  - walk-throughs
  - pilot plant operation
  - industry-based case studies/scenarios
  - ‘what ifs’.
- Knowledge evidence may be collected concurrently with performance evidence or through an independent process, such as workbooks, written assessments or interviews.
- 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.
- Assessors must satisfy the assessor competency requirements that are in place at the time of the assessment as set by the VET regulator.
- In addition the assessor or anyone acting in subject matter expert role in assessment shall demonstrate both technical competency and currency. If the assessor cannot demonstrate technical competency and currency they shall assess with a subject matter expert who does meet these requirements.
- Technical competence can be demonstrated through one or more of:
  - relevant VET or other qualification/Statement of Attainment
  - appropriate workplace experience undertaking the type of work being assessed under routine and non-routine conditions
  - appropriate workplace experience supervising/evaluating the type of work being assessed under routine and non-routine conditions
- Currency can be demonstrated through one or more of:
  - being currently employed undertaking the type of work being assessed
  - being employed by the organisation undertaking the type of work being assessed and having maintained currency in accordance with that organisation’s policies and procedures
  - having consulted/had contact with an organisation undertaking the type of work being assessed within the last twelve months, the consultation/contact being related to assessment
  - conducting on the job training/assessments of the type of work being assessed
  - being an active member of a relevant professional body and participating in activities relevant to the assessment of this type of work.

Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=932aacef-7947-4c80-acc6-593719fe4090

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PMBPROD242 Bond polymers to surfaces

Modification History

Release 1. Supersedes and is equivalent to PMBPROD242A Bond polymers to surfaces

Application

This unit of competency covers the skills and knowledge required to join a solid polymer to another solid surface using adhesives, cohesives, solvents or other joining materials. The polymer may be thermoplastic or cured or uncured thermoset.

This unit of competency applies to operators who are required to select materials and equipment, prepare substrate and joining materials, make the join and apply required conditions, and recognise routine and non-routine problems and take appropriate action.

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, team leader and supervisor, as appropriate.

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

Pre-requisite Unit

Nil

Competency Field

Production

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 work**	1.1	Identify work requirements from production plan or

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	requirements		request
		1.2	Select and check appropriate equipment or tool/s, techniques and materials to be used
		1.3	Recognise requirements which may not be in accordance with usual practice
		1.4	Ask questions of appropriate person to confirm unusual practice
		1.5	Ensure housekeeping is to requirements
		1.6	Identify hazards associated with the job and take appropriate action
		1.7	Perform other pre-operational checks to procedures
2	**Prepare materials for joining**	2.1	Check substrate for suitability
		2.2	Clean/activate substrates to procedures as required
3	**Apply joining materials**	3.1	Prepare joining materials
		3.2	Apply joining materials to substrate(s) as required
		3.3	Monitor drying/setting as appropriate
		3.4	Apply subsequent material/coats as required
		3.5	Complete logs and records as required
		3.6	Keep equipment and work area clean
4	**Join materials**	4.1	Set up required jigs and equipment for joining
		4.2	Bring surfaces together when appropriate
		4.3	Ensure intimate and continuous contact between surfaces
		4.4	Apply required conditions to join until joining process is complete

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5	**Respond to routine problems in accordance with procedures**	5.1	Recognise known faults that occur during the operation
		5.2	Identify and take action on causes of routine faults
		5.3	Log problems as required
		5.4	Identify non-routine problems and report to designated person

Foundation Skills

This section describes those required skills (language, literacy and numeracy) 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.

Applicable legislation, regulations, standards and codes of practice include:

- health, safety and environmental (HSE) legislation, regulations and codes of practice relevant to the workplace, equipment and production processes and hazardous materials
- Australian/international standards relevant to the materials being used and products being made
- any relevant licence and certification requirements.

All operations to which this unit applies are subject to stringent HSE requirements, which may be imposed through state/territory or federal legislation, and these must not be compromised at any time. Where there is an apparent conflict between performance criteria and such requirements the

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legislative requirements take precedence.

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 any combination of:

- 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:

- brush
- syringe
- pipette
- spray gun
- application scraper

Additional tools and equipment will be selected as required from:

- vapour extraction equipment
- application booths
- hand rollers
- presses
- hoists/lifting equipment not requiring any special permits or licences
- manual handling aids, such as hand carts and trolleys
- relevant personal protective equipment (PPE).

Hazards

Hazards must be identified and controlled. Identifying hazards requires consideration of:

- fumes, humidity, air temperatures, radiant heat, hot dies
- hazardous products and materials
- sharp edges, protrusions or obstructions
- slippery surfaces, spills or leaks
- smoke, dust, vapours or other atmospheric hazards

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- electricity
- gas
- gases and liquids under pressure
- structural hazards
- equipment failures
- machinery, equipment and product mass
- 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:

- incorrect joining materials
- variations in materials
- contamination of joining materials or substrates
- inappropriate application of materials
- dust and other contamination
- drying rate problems
- film thickness variation
- film application rates
- coverage issues
- tack (too much, not enough, long leg/short leg)
- products with substrate or other faults.

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 PMBPROD242A Bond polymers to surfaces

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Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=932aacef-7947-4c80-acc6-593719fe4090

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Assessment Requirements for PMBPROD242 Bond polymers to surfaces

Modification History

Release 1. Supersedes and is equivalent to PMBPROD242A Bond polymers to surfaces

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 procedures, job specifications, basic machine control panels, material labels and safety data sheets (SDS)
- select and use materials, tools and equipment to meet job specifications
- prepare surfaces to meet specifications
- check substrate suitability, including:
  - surface soundness
  - surface preparation
  - substrate porosity
  - surface pits, protrusions or other irregularities
- prepare joining material, including one or more of:
  - mixing one pot materials to achieve homogeneity
  - blending two (or more) pot material components
  - thinning (e.g. with solvent) if required
  - measuring components for blends
- monitor key variables, including:
  - application patterns
  - adhesive consistency
  - adhesive viscosity
  - solvent/thinner blend ratios
  - drying/setting times
  - pressure/contact between surfaces
- operate and adjust tools/equipment to make join and apply required conditions to meet product quality and production output specifications
- identify hazards and apply relevant hazard controls
- apply safety procedures
- apply housekeeping procedures
- apply waste management procedures
- recognise early warning signs of equipment/processes needing attention or with potential problems
- recognise routine and non-routine problems

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- identify when the operator is able to rectify faults, when assistance is required and who is the appropriate source for assistance
- take action to resolve faults or report faults to appropriate personnel
- distinguish between possible causes of routine faults, including:
  - raw material variations/contamination
  - process abnormalities
  - procedural errors
  - mechanical abnormalities
  - atmospheric conditions
- communicate effectively with team/work group and supervisors
- complete workplace records
- do basic arithmetical manipulations, including additions, subtractions, divisions, fractions and percentages.

Knowledge Evidence

Must provide evidence that demonstrates knowledge relevant to their job sufficient to operate under routine only supervision and to solve routine problems, including knowledge of:

- types of adhesives, cohesives, solvents and their differences and range of applications
- joining behaviour of polymers to relevant substrates and the role of adhesives, cohesives, solvents and other materials
- types and application of common joining processes
- the potential effects of variations in raw materials and equipment operation in relation to quality of product
- reasons for checking conditions and taking action when they are outside of normal range of process variability
- processing behaviour of polymers and the role of additives
- production workflow sequences and materials demand
- factors which may affect the quality and reliability of joins
- routine problems, their probable causes and relevant corrective actions
- organisation procedures relevant to the work environment/job role
- hierarchy of control
- hazards that may arise in the job/work environment and:
  - their possible causes
  - potential consequences
  - appropriate risk controls.

Assessment Conditions

- The unit should be assessed holistically and the judgement of competence shall be based on a holistic assessment of the evidence.
- In all plants it may be appropriate to assess this unit concurrently with units such as:
  - teamwork

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    - communication.
- 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 or other evidence, 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 industry appropriate materials, 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 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.
- Assessment in a simulated environment should use evidence collected from demonstration of skills and one or more of:
    - walk-throughs
    - pilot plant operation
    - industry-based case studies/scenarios
    - ‘what ifs’.
- Knowledge evidence may be collected concurrently with performance evidence or through an independent process, such as workbooks, written assessments or interviews.
- 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.
- Assessors must satisfy the assessor competency requirements that are in place at the time of the assessment as set by the VET regulator.
- In addition the assessor or anyone acting in subject matter expert role in assessment shall demonstrate both technical competency and currency. If the assessor cannot demonstrate technical competency and currency they shall assess with a subject matter expert who does meet these requirements.
- Technical competence can be demonstrated through one or more of:
    - relevant VET or other qualification/Statement of Attainment

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  - appropriate workplace experience undertaking the type of work being assessed under routine and non-routine conditions
  - appropriate workplace experience supervising/evaluating the type of work being assessed under routine and non-routine conditions
- Currency can be demonstrated through one or more of:
  - being currently employed undertaking the type of work being assessed
  - being employed by the organisation undertaking the type of work being assessed and having maintained currency in accordance with that organisation's policies and procedures
  - having consulted/had contact with an organisation undertaking the type of work being assessed within the last twelve months, the consultation/contact being related to assessment
  - conducting on the job training/assessments of the type of work being assessed
  - being an active member of a relevant professional body and participating in activities relevant to the assessment of this type of work.

Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=932aacef-7947-4c80-acc6-593719fe4090

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PMBPROD247 Hand lay up composites

Modification History

Release 1. Supersedes and is equivalent to PMBPROD247C Hand lay up composites

Application

This unit of competency covers the skills and knowledge required to hand lay up composite materials to form a simple product.

This unit of competency applies to operators who are required to select and prepare materials, set up moulds, lay up the composites and recognise routine and non-routine problems and take appropriate action.

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, team leader and supervisor, as appropriate.

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

Pre-requisite Unit

Nil

Competency Field

Production

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 work requirements**	1.1 Identify work requirements from production plan or request

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		1.2	Check product, material, and equipment meet requirements for the job
		1.3	Recognise requirements which may not be in accordance with usual practice
		1.4	Ask questions of appropriate person to confirm unusual practice
		1.5	Identify hazards associated with the job and take appropriate action
		1.6	Perform other pre-operational checks in accordance with procedures
2	**Set up mould and materials as required**	2.1	Set up mould ready for production
		2.2	Ensure materials are available in the form and quantities required
		2.3	Ensure safety equipment is available and fit for use
3	**Hand lay up composites**	3.1	Apply materials to the mould to specification
		3.2	Monitor product/process quality
		3.3	Make adjustments or seek assistance to remedy faults and non-conformity as required
		3.4	Adjust work to minimise scrap and trim
		3.10	
4	**Respond to routine problems in accordance with procedures**	4.1	Recognise known faults that occur during the operation
		4.2	Identify and take action on causes of routine faults
		4.3	Log problems as required
		4.4	Identify non-routine process and quality problems and take appropriate action

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Foundation Skills

This section describes those required skills (language, literacy and numeracy) 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.

Applicable legislation, regulations, standards and codes of practice include:

- health, safety and environmental (HSE) legislation, regulations and codes of practice relevant to the workplace, equipment and production processes and hazardous materials
- Australian/international standards relevant to the materials being used and products being made
- any relevant licence and certification requirements.

All operations to which this unit applies are subject to stringent HSE requirements, which may be imposed through state/territory or federal legislation, and these must not be compromised at any time. Where there is an apparent conflict between performance criteria and such requirements the legislative requirements take precedence.

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 any combination of:

- emergency procedures
- work instructions
- standard operating procedures (SOPs)
- safe work method statements (SWMS)
- formulae/recipes

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- batch sheets
- temporary instructions
- any similar instructions provided for the smooth running of the plant.

Tools and equipment

Tools and equipment include:

- open moulds for composite products
- hand mixing equipment and stirrers
- knives and cutters to trim fibres
- hand application tools, such as rollers and brushes.

Additional tools and equipment will be selected as required from:

- hand tools
- hoists/lifting equipment not requiring any special permits or licences
- manual handling aids, such as hand carts and trolleys
- relevant personal protective equipment (PPE).

Hazards

Hazards must be identified and controlled. Identifying hazards requires consideration of:

- glass and other fibre hazards (inhalation and skin penetration)
- hazardous products and materials
- cutting equipment
- sharp edges, swarf, scrap
- protrusions or obstructions
- slippery surfaces, spills or leaks
- rotational equipment or vibration
- smoke, dust, vapours or other atmospheric hazards
- electricity
- gas
- gases and liquids under pressure
- structural hazards
- equipment failures
- machinery, equipment and product mass
- 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:

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- cracks, dents or imperfections of the mould
- incorrect resin ratios
- contamination of materials
- shifting of fibres before resin laid
- stacking of fibre and resin sequence problems
- product problems, such as:
  - voids
  - poor surface finish
  - colour contamination
  - release from mould damage.

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 PMBPROD247C Hand lay up composites

Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=932aacef-7947-4c80-acc6-593719fe4090

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Assessment Requirements for PMBPROD247 Hand lay up composites

Modification History

Release 1. Supersedes and is equivalent to PMBPROD247C Hand lay up composites

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 procedures, job specifications, , basic machine control panels, material labels and safety data sheets (SDS)
- select materials, tools and equipment to meet job specifications
- monitor key variables, including:
  - mould conditions
  - ambient temperature
  - air flow/ventilation rate
  - viscosity of resin
  - resin to fibre ratio
  - time since resin mixed *vs* pot life of mix
- prepare and use composites materials, including:
  - gel coats
  - resins
  - fibre reinforcements
- hand lay up composites to moulds
- identify hazards and apply relevant hazard controls
- apply safety procedures
- apply housekeeping procedures
- apply waste management procedures
- recognise early warning signs of equipment/processes needing attention or with potential problems
- recognise routine and non-routine problems
- identify when the operator is able to rectify faults, when assistance is required and who is the appropriate source for assistance
- take action to resolve faults or report faults to appropriate personnel
- distinguish between possible causes of routine faults, including:
  - raw material variations/contamination
  - process abnormalities
  - procedural errors
  - mechanical abnormalities

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- communicate effectively with team/work group and supervisors
- complete workplace records
- do basic arithmetical manipulations, including additions, subtractions, divisions, fractions and percentages.

Knowledge Evidence

Must provide evidence that demonstrates knowledge relevant to their job sufficient to operate under routine only supervision and to solve routine problems, including knowledge of:

- types and application of materials commonly used in composites
- methods of application of composite materials to the mould by hand
- impact of changes in ratio of resin to fibre
- the potential effects of variations in raw materials and equipment in relation to quality of product
- reasons for checking process control panels and reporting readings which are outside of normal range of process variability
- processing behaviour of polymers and the role of additives
- production workflow sequences and materials demand
- factors which may affect product quality or production output and appropriate remedies
- routine problems, their probable causes and relevant corrective actions
- organisation procedures relevant to the work environment/job role
- hierarchy of control
- hazards that may arise in the job/work environment and:
  - their possible causes
  - potential consequences
  - appropriate risk controls.

Assessment Conditions

- The unit should be assessed holistically and the judgement of competence shall be based on a holistic assessment of the evidence.
- In all plants it may be appropriate to assess this unit concurrently with units such as:
  - teamwork
  - communication.
- 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 or other evidence, 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

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  - must include the use of industry appropriate materials, 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 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.
- Assessment in a simulated environment should use evidence collected from demonstration of skills and one or more of:
  - walk-throughs
  - pilot plant operation
  - industry-based case studies/scenarios
  - 'what ifs'.
- Knowledge evidence may be collected concurrently with performance evidence or through an independent process, such as workbooks, written assessments or interviews.
- 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.
- Assessors must satisfy the assessor competency requirements that are in place at the time of the assessment as set by the VET regulator.
- In addition the assessor or anyone acting in subject matter expert role in assessment shall demonstrate both technical competency and currency. If the assessor cannot demonstrate technical competency and currency they shall assess with a subject matter expert who does meet these requirements.
- Technical competence can be demonstrated through one or more of:
  - relevant VET or other qualification/Statement of Attainment
  - appropriate workplace experience undertaking the type of work being assessed under routine and non-routine conditions
  - appropriate workplace experience supervising/evaluating the type of work being assessed under routine and non-routine conditions
- Currency can be demonstrated through one or more of:
  - being currently employed undertaking the type of work being assessed
  - being employed by the organisation undertaking the type of work being assessed and having maintained currency in accordance with that organisation's policies and procedures

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- having consulted/had contact with an organisation undertaking the type of work being assessed within the last twelve months, the consultation/contact being related to assessment
- conducting on the job training/assessments of the type of work being assessed
- being an active member of a relevant professional body and participating in activities relevant to the assessment of this type of work.

Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=932aacef-7947-4c80-acc6-593719fe4090

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PMBPROD248 Prepare surfaces for coating

Modification History

Release 1. Supersedes and is equivalent to PMBPROD248C Prepare surfaces for coating

Application

This unit of competency covers the skills and knowledge required to prepare surfaces for coating. It applies to preparation for coatings typically used in the plastics, rubber and cablemaking sectors, for example, adhesives, primers, surface coatings and finishes, which may be applied by hand or machine.

This unit of competency applies to operators who are required to identify work requirements, prepare materials and equipment, check product for quality and conformity to specifications, prepare the surfaces and recognise routine and non-routine problems and take appropriate action.

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, team leader and supervisor, as appropriate.

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

Pre-requisite Unit

Nil

Competency Field

Production

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.

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1	**Check work requirements**	1.1	Identify work requirements from production plan or request
		1.2	Check product, materials and equipment meet requirements for job
		1.3	Identify and exclude sources of contamination
		1.4	Ask questions of appropriate person to confirm unusual practice
		1.5	Identify hazards associated with the job and take appropriate action
		1.6	Perform other pre-operational checks in accordance with procedures
2	**Prepare surface in accordance with procedures**	2.1	Check process is within required limits
		2.2	Prepare surface as required
		2.3	Check product is to required standard
		2.4	Maintain supply of materials as required
		2.5	Complete logs and records as required
		2.6	Keep equipment and work area clean
3	**Respond to routine problems in accordance with procedures**	3.1	Recognise known faults that occur during the operation
		3.2	Identify and take action on causes of routine faults
		3.3	Log problems as required
		3.4	Identify non-routine problems and report to designated person

Foundation Skills

This section describes those required skills (language, literacy and numeracy) that are essential to performance.

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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.

Applicable legislation, regulations, standards and codes of practice include:

- health, safety and environmental (HSE) legislation, regulations and codes of practice relevant to the workplace and hazardous materials
- Australian/international standards relevant to the materials being used and products being made
- any relevant licence and certification requirements.

All operations to which this unit applies are subject to stringent HSE requirements, which may be imposed through state/territory or federal legislation, and these must not be compromised at any time. Where there is an apparent conflict between performance criteria and such requirements the legislative requirements take precedence.

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 any combination of:

- emergency procedures
- work instructions
- standard operating procedures (SOPs0
- safe work method statements (SWMS)
- formulas/recipes
- batch sheets
- temporary instructions
- any similar instructions provided for the smooth running of the plant.

Tools and

Tools and equipment include one or more of:

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equipment

- hand finishing tools
- scrapers
- sandpaper
- buffs
- polishes.

Additional tools and equipment will be selected as required from:

- measurement equipment
- hand tools
- hoists/lifting equipment not requiring any special permits or licences
- manual handling aids, such as hand carts and trolleys
- relevant personal protective equipment (PPE).

Hazards

Hazards must be identified and controlled. Identifying hazards requires consideration of:

- weight, shape, volume of materials to be handled
- hazardous products and materials
- sharp edges, protrusions or obstructions
- slippery surfaces, spills or leaks
- heat, smoke, dust, vapours or other atmospheric hazards
- electricity
- gas
- gases and liquids under pressure
- structural hazards
- equipment failures
- machinery, equipment and product mass
- 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:

- wear and breakage
- overuse of tools, requiring rework
- incorrect substrate used
- incorrect measurement of surface finish
- product problems, such as:
- contamination of surface prior to polish
- damage to polished surface.

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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 PMBPROD248C Prepare surfaces for coating

Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=932aacef-7947-4c80-acc6-593719fe4090

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Assessment Requirements for PMBPROD248 Prepare surfaces for coating

Modification History

Release 1. Supersedes and is equivalent to PMBPROD248C Prepare surfaces for coating

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 procedures, job specifications, material labels and safety data sheets (SDS)
- select and use materials, tools, equipment and procedures to meet job specifications
- prepare surfaces according to procedures
- monitor key variables, including:
  - equipment conditions
  - production rate
  - reasons for interruptions
  - product quality
- identify hazards and apply relevant hazard controls
- implement emergency shutdown procedures
- apply safety procedures
- apply housekeeping procedures
- apply waste management procedures
- recognise routine and non-routine problems
- identify when the operator is able to rectify problems, when assistance is required and who is the appropriate source for assistance
- take action to resolve faults or report problems to appropriate personnel
- distinguish between possible causes of routine problems, including:
  - raw material variations/contamination
  - process/procedural problems
  - equipment/tool wear or malfunction
- communicate effectively with team/work group and supervisors
- complete workplace records
- use measuring systems, scales and calculating devices
- do basic arithmetical manipulations, including additions, subtractions, divisions, fractions and percentages.

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Knowledge Evidence

Must provide evidence that demonstrates knowledge relevant to their job sufficient to operate under routine only supervision and to solve routine problems, including knowledge of:

- common types of substrate and their preparation requirements
- surface finish techniques appropriate to common substrates and the equipment, tools and consumables required
- surface finish measurement techniques
- sources of contamination that may affect surface finish
- routine and non-routine problems that may arise, the range of possible causes and appropriate actions
- organisation procedures relevant to the work environment/job role
- hierarchy of control
- hazards that may arise in the job/work environment and:
  - their possible causes
  - potential consequences
  - appropriate risk controls.

Assessment Conditions

- The unit should be assessed holistically and the judgement of competence shall be based on a holistic assessment of the evidence.
- In all plants it may be appropriate to assess this unit concurrently with units such as:
  - teamwork
  - communication.
- 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 or other evidence, 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 industry appropriate materials, 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 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.

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- Assessment in a simulated environment should use evidence collected from demonstration of skills and one or more of:
  - walk-throughs
  - pilot plant operation
  - industry-based case studies/scenarios
  - 'what ifs'.
- Knowledge evidence may be collected concurrently with performance evidence or through an independent process, such as workbooks, written assessments or interviews.
- 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.
- Assessors must satisfy the assessor competency requirements that are in place at the time of the assessment as set by the VET regulator.
- In addition the assessor or anyone acting in subject matter expert role in assessment shall demonstrate both technical competency and currency. If the assessor cannot demonstrate technical competency and currency they shall assess with a subject matter expert who does meet these requirements.
- Technical competence can be demonstrated through one or more of:
  - relevant VET or other qualification/Statement of Attainment
  - appropriate workplace experience undertaking the type of work being assessed under routine and non-routine conditions
  - appropriate workplace experience supervising/evaluating the type of work being assessed under routine and non-routine conditions
- Currency can be demonstrated through one or more of:
  - being currently employed undertaking the type of work being assessed
  - being employed by the organisation undertaking the type of work being assessed and having maintained currency in accordance with that organisation's policies and procedures
  - having consulted/had contact with an organisation undertaking the type of work being assessed within the last twelve months, the consultation/contact being related to assessment
  - conducting on the job training/assessments of the type of work being assessed
  - being an active member of a relevant professional body and participating in activities relevant to the assessment of this type of work.

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Links

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PMBPROD265 Operate portable vulcanising equipment

Modification History

Release 1. Supersedes and is equivalent to PMBPROD265C Operate portable vulcanising equipment

Application

This unit of competency covers the skills and knowledge required to operate portable vulcanising equipment and ancillary equipment that is integral to the process.

This unit of competency applies to operators who are required to plan the curing job, set up equipment and materials, conduct vulcanising operations, assess the finished work, and recognise routine and non-routine problems and take appropriate action.

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, team leader and supervisor, as appropriate.

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

Pre-requisite Unit

Nil

Competency Field

Production

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	**Identify work**	1.1	Identify the job and vulcaniser characteristics and

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	requirements for vulcanising operations		product quality outcomes required
		1.2	Obtain specifications relevant to the material being vulcanised
		1.3	Identify and obtain equipment and materials required for the vulcanising process
		1.4	Identify hazards associated with the job and take appropriate action
		1.5	Check materials, ancillary supplies and equipment for quality, access and condition
		1.6	Identify and check emergency stops, gauges, guards and controls
2	**Plan vulcanising operations**	2.1	Identify time, pressure and temperature requirements
		2.2	Plan the task sequences
		2.3	Plan for waste management, maintenance and housekeeping requirements
3	**Prepare vulcanising equipment**	3.1	Check vulcaniser, ancillary, equipment and attachments are fit for purpose
		3.2	Set up vulcanising press according to procedures
		3.3	Set equipment control parameters to specifications
		3.4	Obtain appropriate clearances for vulcanising to commence
4	**Conduct and monitor vulcanising operations**	4.1	Start the unit and commence vulcanising
		4.2	Monitor the unit operation throughout the entire process
		4.3	Note and report non-conformity to specifications to procedures
		4.4	Make adjustments as required
		4.5	Shut down unit when cycle completed

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		4.6	Follow procedure to disassemble equipment as required
		4.7	Assess the outcome of the vulcanising process and take remedial action as necessary and report to the appropriate person
		4.8	Brand splice according to company policy
		4.9	Clean up, lubricate and adjust equipment as required
		4.10	Complete waste removal or recycling as required
5	**Respond to routine problems to procedure**	5.1	Recognise known faults that occur during the operation
		5.2	Identify and take action on causes of routine faults
		5.3	Log problems as required
		5.4	Identify non-routine process and quality problems and take appropriate action

Foundation Skills

This section describes those required skills (language, literacy and numeracy) 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.

Applicable legislation, regulations, standards and codes of practice include:

- health, safety and environmental (HSE) legislation, regulations and codes of practice relevant to the workplace, equipment and production processes

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and hazardous materials
- Australian/international standards relevant to the materials being used and products being made
- any relevant licence and certification requirements.

All operations to which this unit applies are subject to stringent HSE requirements, which may be imposed through state/territory or federal legislation, and these must not be compromised at any time. Where there is an apparent conflict between performance criteria and such requirements the legislative requirements take precedence.

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 any combination of:

- 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:

- portable vulcanising equipment
- ancillary equipment that is integral to the process
- knives and other rubber cutting and shaping equipment.

Additional tools and equipment will be selected as required from:

- powered equipment/aids
- hoists/lifting equipment not requiring any special permits or licences
- manual handling aids, such as hand carts and trolleys
- relevant personal protective equipment (PPE).

Hazards

Hazards must be identified and controlled. Identifying hazards requires consideration of:

- weight, shape, volume of materials to be handled

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- hazardous products and materials
- knives, blades and cutting tools
- sharp edges, protrusions or obstructions
- slippery surfaces, spills or leaks
- rotational equipment or vibration
- high temperatures
- smoke, dust, vapours or other atmospheric hazards
- electricity
- gas
- gases and liquids under pressure
- structural hazards
- equipment failures
- machinery, equipment and product mass
- 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:

- incorrect vulcaniser set-up
- variations in materials
- contamination of materials
- unsuccessful vulcanising processes
- entrapped gasses
- wire or reinforcing exposure
- inappropriate material specification.

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 PMBPROD265C Operate portable vulcanising equipment

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Links

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Assessment Requirements for PMBPROD265 Operate portable vulcanising equipment

Modification History

Release 1. Supersedes and is equivalent to PMBPROD265C Operate portable vulcanising equipment

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 procedures, job specifications, basic machine control panels, material labels and safety data sheets (SDS)
- select and use materials, procedures, tools and equipment to meet job specifications
- plan and sequence the work
- set up portable vulcanising and ancillary equipment
- monitor the equipment using measured/indicated data and smell, sight, sound and feel as appropriate
- monitor and interpret key variables, including:
  - equipment operating temperatures and times
  - additional pressures applied
  - tension
  - output rate
  - product integrity and general conformance to specification/sample
- operate and adjust the equipment to meet product quality and production output specifications
- pause the equipment or shut down equipment in normal and abnormal circumstances
- clean up, lubricate and adjust the equipment
- identify hazards and apply relevant hazard controls
- apply safety procedures
- apply housekeeping procedures
- apply waste management procedures
- recognise early warning signs of equipment/processes needing attention or with potential problems
- recognise routine and non-routine problems
- identify when the operator is able to rectify faults, when assistance is required and who is the appropriate source for assistance
- take action to resolve faults or report faults to appropriate personnel
- distinguish between possible causes of routine faults, including:
  - raw material variations/contamination

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  - process abnormalities
  - procedural errors
  - mechanical abnormalities
- communicate effectively with team/work group and supervisors
- complete workplace records
- do basic arithmetical manipulations, including additions, subtractions, divisions, fractions and percentages.

Knowledge Evidence

Must provide evidence that demonstrates knowledge relevant to their job sufficient to operate under routine only supervision and to solve routine problems, including knowledge of:

- the function of vulcanising equipment, machine components and guides
- principles of operation of the equipment
- the potential effects of variations in raw materials and equipment operation in relation to quality of product
- reasons for checking process control panels and reporting readings which are outside of normal range of process variability
- changes to materials during the vulcanising process
- role of additives
- production workflow sequences and materials demand
- impact of vulcanising speed, pressure, time, temperature and tension on product quality and production output
- role of heat and pressure in relation to providing strength, stiffness, resistance to deformation, fatigue and abrasion
- factors which may affect product quality or production output and appropriate remedies
- differences in vulcanising processes and additives for natural, synthetic and mixed rubber compounds
- routine problems, their probable causes and relevant corrective actions
- organisation procedures relevant to the work environment/job role
- hierarchy of control
- hazards that may arise in the job/work environment and:
  - their possible causes
  - potential consequences
  - appropriate risk controls.

Assessment Conditions

- The unit should be assessed holistically and the judgement of competence shall be based on a holistic assessment of the evidence.
- In all plants it may be appropriate to assess this unit concurrently with units such as:
  - teamwork
  - communication.

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- The collection of performance evidence:
  - should occur over a range of situations which include typical disruptions to normal, smooth operation of an operating plant
  - will typically include a supervisor/third-party report or other evidence, 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 an appropriate industrial item of equipment requiring demonstration of operation, start and stop procedures 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 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.
- Assessment in a simulated environment should use evidence collected from demonstration of skills and one or more of:
  - walk-throughs
  - pilot plant operation
  - industry-based case studies/scenarios
  - ‘what ifs’.
- Knowledge evidence may be collected concurrently with performance evidence or through an independent process, such as workbooks, written assessments or interviews.
- 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.
- Assessors must satisfy the assessor competency requirements that are in place at the time of the assessment as set by the VET regulator.
- In addition the assessor or anyone acting in subject matter expert role in assessment shall demonstrate both technical competency and currency. If the assessor cannot demonstrate technical competency and currency they shall assess with a subject matter expert who does meet these requirements.
- Technical competence can be demonstrated through one or more of:
  - relevant VET or other qualification/Statement of Attainment

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  - appropriate workplace experience undertaking the type of work being assessed under routine and non-routine conditions
  - appropriate workplace experience supervising/evaluating the type of work being assessed under routine and non-routine conditions
- Currency can be demonstrated through one or more of:
  - being currently employed undertaking the type of work being assessed
  - being employed by the organisation undertaking the type of work being assessed and having maintained currency in accordance with that organisation's policies and procedures
  - having consulted/had contact with an organisation undertaking the type of work being assessed within the last twelve months, the consultation/contact being related to assessment
  - conducting on the job training/assessments of the type of work being assessed
  - being an active member of a relevant professional body and participating in activities relevant to the assessment of this type of work.

Links

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PMBPROD280 Operate resin-glass depositor equipment

Modification History

Release 1. Supersedes and is equivalent to PMBPROD280B Operate resin-glass depositor equipment

Application

This unit of competency covers the skills and knowledge required to operate automated resin-glass depositor (chopper gun) equipment for composite products.

This unit of competency applies to operators who are required to check the requirements for the job; perform pre-operational checks; monitor equipment operations, moulds, product quality and conformity; and recognise routine and non-routine problems and take appropriate action.

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, team leader and supervisor, as appropriate.

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

Pre-requisite Unit

Nil

Competency Field

Production

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.

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1	**Check work requirements**	1.1	Identify work requirements from production plan or request
		1.2	Check product, materials and equipment requirements for job
		1.3	Recognise requirements which may not be in accordance with usual practice
		1.4	Ask questions of appropriate person to confirm non-standard job specifications
		1.5	Ensure housekeeping is to requirements
		1.6	Identify hazards associated with the job and take appropriate action
		1.7	Perform other pre-operational checks in accordance with workplace procedures
2	**Check process set-up**	2.1	Check safety equipment and guards are in position and working
		2.2	Check operation of resin-glass depositor equipment
		2.3	Check moulds for cracks, chips, marks and cleanliness
		2.4	Check materials, including fibre preforms, resins, additives and release agents are correct
		2.5	Complete pre-start checks
3	**Operate equipment to procedures**	3.1	Start equipment safely and correctly when required
		3.2	Check process is operating within required limits
		3.3	Collect products and store as required
		3.4	Check product/process is in specification/to required quality standard
		3.5	Maintain supply of materials as required
		3.6	Complete logs and records as required
		3.7	Collect and segregate scrap, waste and other materials as

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			required
		3.8	Keep equipment and work area clean
		3.9	Pause equipment cycle and perform emergency stop, as required
4	**Respond to routine problems in accordance with procedures**	4.1	Recognise known faults that occur during the operation
		4.2	Identify and take action on causes of routine faults
		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 required skills (language, literacy and numeracy) 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.

Applicable legislation, regulations, standards and codes of practice include:

- health, safety and environmental (HSE) legislation, regulations and codes of practice relevant to the workplace, equipment and production processes and hazardous materials
- Australian/international standards relevant to the materials being used and products being made
- any relevant licence and certification requirements.

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All operations to which this unit applies are subject to stringent HSE requirements, which may be imposed through state/territory or federal legislation, and these must not be compromised at any time. Where there is an apparent conflict between performance criteria and such requirements the legislative requirements take precedence.

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 any combination of:

- 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:

- automated resin-glass depositor equipment and its major components
- moulds
- ancillary equipment that is integral to the process.

Additional tools and equipment will be selected as required from:

- programmable logic controllers (PLC) if fitted
- hand tools used in the process
- hoists/lifting equipment not requiring any special permits or licences
- manual handling aids, such as hand carts and trolleys
- relevant personal protective equipment (PPE).

Hazards

Hazards must be identified and controlled. Identifying hazards requires consideration of:

- weight, shape, volume of materials to be handled
- hazardous products and materials
- sharp edges, protrusions or obstructions
- slippery surfaces, spills or leaks

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- rotational equipment or vibration
- high temperatures
- smoke, dust, vapours or other atmospheric hazards
- electricity
- structural hazards
- equipment failures
- machinery, equipment and product mass
- 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:

- equipment malfunction
- variations in process conditions
- variations in materials or contamination of materials
- equipment, tool or mould damage
- routine product faults
- machine malfunction/failure
- mould/tooling problems.

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 PMBPROD280B Operate resin-glass depositor equipment

Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=932aacef-7947-4c80-acc6-593719fe4090

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Assessment Requirements for PMBPROD280 Operate resin-glass depositor equipment

Modification History

Release 1. Supersedes and is equivalent to PMBPROD280B Operate resin-glass depositor equipment

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 procedures, job specifications, basic machine control panels, material labels and safety data sheets (SDS)
- select and use tools and equipment to meet job specifications
- monitor resin-glass depositor and ancillary equipment using measured/indicated data and smell, sight, sound and feel as appropriate
- monitor and interpret key variables, including:
  - machine conditions
  - humidity and temperature
  - ratio of fibre/additives to resin
  - production rate
  - product integrity and general conformance to specifications
- operate and adjust the equipment to meet product quality and production output specifications
- pause the equipment or shut down equipment in normal and abnormal circumstances
- demould products
- identify hazards and apply relevant hazard controls
- apply safety procedures
- apply housekeeping procedures
- apply waste management procedures
- recognise early warning signs of equipment/processes needing attention or with potential problems
- recognise routine and non-routine problems
- identify when the operator is able to rectify faults, when assistance is required and who is the appropriate source for assistance
- take action to resolve faults or report faults to appropriate personnel
- distinguish between possible causes of routine faults, including:
  - raw material variations/contamination
  - process abnormalities
  - procedural errors

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  - mechanical abnormalities
- communicate effectively with team/work group and supervisors
- complete workplace records
- do basic arithmetical manipulations, including additions, subtractions, divisions, fractions and percentages.

Knowledge Evidence

Must provide evidence that demonstrates knowledge relevant to their job sufficient to operate under routine only supervision and to solve routine problems, including knowledge of:

- the function of resin-glass depositor equipment, machine components and guides
- principles of operation of the equipment
- the potential effects of variations in raw materials and equipment operation in relation to quality of product
- process behaviours of resins and the role of additives
- reasons for checking process control panels and reporting readings which are outside of normal range of process variability
- production workflow sequences and materials demand
- factors which may affect product quality or production output and appropriate remedies
- routine problems, their probable causes and relevant corrective actions
- organisation procedures relevant to the work environment/job role
- hierarchy of control
- hazards that may arise in the job/work environment and:
  - their possible causes
  - potential consequences
  - appropriate risk controls.

Assessment Conditions

- The unit should be assessed holistically and the judgement of competence shall be based on a holistic assessment of the evidence.
- In all plants it may be appropriate to assess this unit concurrently with units such as:
  - teamwork
  - communication.
- The collection of performance evidence:
  - should occur over a range of situations which include typical disruptions to normal, smooth operation of an operating plant
  - will typically include a supervisor/third-party report or other evidence, 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

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  - must include the use of an appropriate industrial item of equipment requiring demonstration of operation, start and stop procedures 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 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.
- Assessment in a simulated environment should use evidence collected from demonstration of skills and one or more of:
  - walk-throughs
  - pilot plant operation
  - industry-based case studies/scenarios
  - ‘what ifs’.
- Knowledge evidence may be collected concurrently with performance evidence or through an independent process, such as workbooks, written assessments or interviews.
- 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.
- Assessors must satisfy the assessor competency requirements that are in place at the time of the assessment as set by the VET regulator.
- In addition the assessor or anyone acting in subject matter expert role in assessment shall demonstrate both technical competency and currency. If the assessor cannot demonstrate technical competency and currency they shall assess with a subject matter expert who does meet these requirements.
- Technical competence can be demonstrated through one or more of:
  - relevant VET or other qualification/Statement of Attainment
  - appropriate workplace experience undertaking the type of work being assessed under routine and non-routine conditions
  - appropriate workplace experience supervising/evaluating the type of work being assessed under routine and non-routine conditions
- Currency can be demonstrated through one or more of:
  - being currently employed undertaking the type of work being assessed
  - being employed by the organisation undertaking the type of work being assessed and having maintained currency in accordance with that organisation’s policies and procedures

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- having consulted/had contact with an organisation undertaking the type of work being assessed within the last twelve months, the consultation/contact being related to assessment
- conducting on the job training/assessments of the type of work being assessed
- being an active member of a relevant professional body and participating in activities relevant to the assessment of this type of work.

Links

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PMBPROD323 Produce powder coated products

Modification History

Release 1. Supersedes and is equivalent to PMBPROD323C Produce powder coated products

Application

This unit of competency covers the skills and knowledge required to operate and adjust powder (dry) coating equipment to produce powder coated products.

This unit of competency applies to experienced operators who are required to start up and stop powder (dry) coating equipment, monitor equipment operation, maintain continuity of process, make adjustments to remedy faults and non-conformity and solve problems within area of responsibility.

This unit of competency applies to an experienced operator demonstrating theoretical and technical knowledge and well developed skills in situations that require some discretion and judgement. The experienced operator may work alone or as a member of a team or group and will work in liaison with other shift team members, team leader and supervisor, as appropriate.

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

Pre-requisite Unit

Nil

Competency Field

Production

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.

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1	**Plan own work requirements**	1.1	Identify equipment and processes used for production process and upstream and downstream operations from production plan or request
		1.2	Identify materials colour, grade and quantity required
		1.3	Recognise hazards and follow appropriate hazard control/minimisation methods
		1.4	Identify and check emergency stops, guards and controls
		1.5	Identify requirements for materials, quality, production and equipment checks
		1.6	Identify materials, waste management and housekeeping needs
2	**Start up powder coating process**	2.1	Determine equipment requirements
		2.2	Set up and adjust powder coating equipment, racks, overhead tracks, spray equipment and oven
		2.3	Check equipment, powder coat material and settings all match requirements
		2.4	Discard, or make adjustments to the process for, non-conforming materials
		2.5	Set up date, batch and materials markings to specifications, as required
		2.6	Complete other pre-start checks in accordance with procedures
		2.7	Start up powder coating process
3	**Operate and make adjustments as required to the powder coating process**	3.1	Start equipment safely and correctly in accordance with standard procedures
		3.2	Operate equipment, noting key variables
		3.3	Compare measures of powder build, colour and final coat match requirements
		3.4	Monitor controls, including speeds, operating temperatures and spray conditions, as required

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		3.5	Monitor controls/displays/terminals for production/process data
		3.6	Make adjustments to remedy faults and non-conformity to standard as required
		3.7	Maintain continuity of process
		3.8	Collect and reprocess/discard scrap/trim and other materials in accordance with procedures
		3.9	Clean, adjust and lubricate equipment as required
		3.10	Pause or stop equipment in an emergency, following procedures
4	**Anticipate and solve problems**	4.1	Recognise a problem or a potential problem
		4.2	Determine problems needing priority action
		4.3	Refer problems outside area of responsibility to appropriate person, with possible causes
		4.4	Seek information and assistance as required to solve problems
		4.5	Solve problems within area of responsibility
		4.6	Follow through items initiated until final resolution has occurred

Foundation Skills

This section describes those required skills (language, literacy and numeracy) 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

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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.

Applicable legislation, regulations, standards and codes of practice include:

- health, safety and environmental (HSE) legislation, regulations and codes of practice relevant to the workplace, manual handling and hazardous materials
- Australian/international standards relevant to the materials being used and products being made
- any relevant licence and certification requirements.

All operations to which this unit applies are subject to stringent HSE requirements, which may be imposed through state/territory or federal legislation, and these must not be compromised at any time. Where there is an apparent conflict between performance criteria and such requirements the legislative requirements take precedence.

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 any combination of:

- 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:

- powder coating spray equipment
- ancillary equipment that is integral to the process
- racks, baskets and supports, including overhead tracks and drives
- curing ovens and controls.

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Additional tools and equipment will be selected as required from:

- powder handling equipment
- hand tools used in the process
- hoists/lifting equipment not requiring any special permits or licences
- manual handling aids, such as hand carts and trolleys
- relevant personal protective equipment (PPE).

Hazards

Hazards must be identified and controlled. Identifying hazards requires consideration of:

- weight, shape, volume of materials to be handled
- hazardous products and materials
- rotational equipment or vibration
- sharp edges, protrusions or obstructions
- slippery surfaces, spills or leaks
- smoke, dust, vapours or other atmospheric hazards
- high temperatures
- electricity
- gas
- gases and liquids under pressure
- structural hazards
- equipment failures
- machinery, equipment and product mass
- other hazards that might arise.

Problems

Routine and non-routine problems must be resolved.

Non-routine problems must be resolved by applying operational knowledge to develop new solutions, either individually or in collaboration with relevant experts, to:

- determine problems needing action
- determine possible fault causes
- develop solutions to problems which do not have a known solution
- follow through items initiated until final resolution has occurred
- report problems outside area of responsibility to designated person.

Non-routine problems are unexpected problems or variations of previous problems and include one or more of:

- unstable process variables
- sub-optimal operation

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- variations in feed rates
- variations in quality
- emergency situations
- intermittent faults.

Operational knowledge includes one or more of:

- procedures
- training
- technical information, such as journals and engineering specifications
- remembered experience
- relevant knowledge obtained from appropriate people.

Routine problems are predictable and have known solutions and include one or more of:

- processing problems
- equipment malfunctions
- out of specification equipment operation
- variations in materials
- raw material contamination
- incorrect quantity of materials
- poor pre-treatment coverage, drainage or compatibility
- colour variation
- blemishes
- uneven coating
- over/under cured coating
- contamination of materials.

Unit Mapping Information

Release 1. Supersedes and is equivalent to PMBPROD323C Produce powder coated products

Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=932aacef-7947-4c80-acc6-593719fe4090

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Assessment Requirements for PMBPROD323 Produce powder coated products

Modification History

Release 1. Supersedes and is equivalent to PMBPROD323C Produce powder coated products

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 procedures, job specifications, instruments/control panels, material labels and safety data sheets (SDS)
- set up powder coating equipment and materials to meet specifications
- start up and operate the equipment
- monitor key variables, including:
  - spray application and coverage
  - operating temperatures
  - speed
  - colour
  - cycle time
  - product integrity and general conformance to specification
- make adjustments to remedy faults and non-conformity
- maintain output and product quality using appropriate instruments, controls, test information and readings
- safely shut down equipment in normal and abnormal circumstances
- leave machine in appropriate condition with any required locks, tags or notices
- identify hazards and apply relevant hazard controls
- apply safety procedures
- apply housekeeping procedures
- apply waste management procedures
- recognise early warning signs of equipment/processes needing attention or with potential problems
- distinguish between causes of problems, including:
  - operational problems
  - instrument failure/malfunction
  - electrical failure/malfunction
  - mechanical failure/malfunction
  - wrong readings
  - equipment design deficiencies
  - materials properties

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  - surface conditions
  - oven conditions
  - process variables
- raw material variations/contamination
- process abnormalities
- procedural errors
- recognise and prioritise problems requiring action
- resolve routine and non-routine problems
- communicate effectively with team/work group and supervisors
- complete workplace records
- do basic arithmetical manipulations, including additions, subtractions, divisions, fractions and percentages.

Knowledge Evidence

Must provide evidence that demonstrates knowledge relevant to their job sufficient to operate independently and to solve routine and non-routine problems, including knowledge of:

- common types of powders and applications for range of substrate materials
- common types and purpose of pre-treatment
- function and operating principles of powder coating equipment, machine components and ancillary equipment
- impact of variations in machine process conditions and raw materials on product quality and production output
- factors which may affect product quality or production output and appropriate remedies
- powder coating manufacturing process and stages of production
- characteristics of materials and their behaviour in relation process conditions and stages of production
- quality requirements at each production stage
- mechanical, hydraulic, pneumatic, electrical and electronic principles which effect machine operation
- common adjustments in process variables and their impact on product quality and production output
- impact of variations in raw materials and equipment operation in relation to final product
- impact of variations in raw materials and equipment operation in relation to final product
- possible changes to materials properties to better suit specific process requirements
- routine and non-routine problems that may arise, the range of possible causes and appropriate actions
- organisation procedures relevant to the work environment/job role
- hierarchy of control
- hazards that may arise in the job/work environment and:
  - their possible causes
  - potential consequences
  - appropriate risk controls.

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Assessment Conditions

- The unit should be assessed holistically and the judgement of competence shall be based on a holistic assessment of the evidence.
- In all plants it may be appropriate to assess this unit concurrently with units such as:
  - teamwork
  - communication.
- The collection of performance evidence:
  - should occur over a range of situations which include typical disruptions to normal, smooth operation of an operating plant
  - will typically include a supervisor/third-party report or other evidence, 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 an appropriate industrial item of equipment requiring demonstration of operation, start and stop procedures 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 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.
- Assessment in a simulated environment should use evidence collected from demonstration of skills and one or more of:
  - walk-throughs
  - pilot plant operation
  - industry-based case studies/scenarios
  - ‘what ifs’.
- Knowledge evidence may be collected concurrently with performance evidence or through an independent process, such as workbooks, written assessments or interviews.
- 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.

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- Assessors must satisfy the assessor competency requirements that are in place at the time of the assessment as set by the VET regulator.
- In addition the assessor or anyone acting in subject matter expert role in assessment shall demonstrate both technical competency and currency. If the assessor cannot demonstrate technical competency and currency they shall assess with a subject matter expert who does meet these requirements.
- Technical competence can be demonstrated through one or more of:
  - relevant VET or other qualification/Statement of Attainment
  - appropriate workplace experience undertaking the type of work being assessed under routine and non-routine conditions
  - appropriate workplace experience supervising/evaluating the type of work being assessed under routine and non-routine conditions
- Currency can be demonstrated through one or more of:
  - being currently employed undertaking the type of work being assessed
  - being employed by the organisation undertaking the type of work being assessed and having maintained currency in accordance with that organisation's policies and procedures
  - having consulted/had contact with an organisation undertaking the type of work being assessed within the last twelve months, the consultation/contact being related to assessment
  - conducting on the job training/assessments of the type of work being assessed
  - being an active member of a relevant professional body and participating in activities relevant to the assessment of this type of work.

Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=932aacef-7947-4c80-acc6-593719fe4090

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PMBPROD347 Produce composites using hand lamination

Modification History

Release 1. Supersedes and is equivalent to PMBPROD347B Produce composites using hand lamination

Application

This unit of competency covers the skills and knowledge required to operate and adjust hand lamination processes to produce complex composite product. It applies to products which are 'complex' due to their shape (e.g. acute angle corners), technical specification (e.g. high strength/rigidity/low weight) or the conditions under which the work must be undertaken (e.g. poor access, hot/cold environment).

This unit of competency applies to experienced operators who are required to set up and prepare equipment, tools and materials, monitor equipment operation, make adjustments to remedy faults and non-conformity and solve problems within area of responsibility.

This unit of competency applies to an experienced operator demonstrating theoretical and technical knowledge and well developed skills in situations that require some discretion and judgement. The experienced operator may work alone or as a member of a team or group and will work in liaison with other shift team members, team leader and supervisor, as appropriate.

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

Pre-requisite Unit

PMBPROD247 Hand lay up composites

Competency Field

Production

Unit Sector

Not applicable

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Elements and Performance Criteria

Elements describe the essential outcomes.		Performance criteria describe the performance needed to demonstrate achievement of the element.	
1	**Plan own work requirements**	1.1	Identify most appropriate equipment and materials to be used for required product and upstream and downstream operations from production plan or request
		1.2	Identify materials required, including additives
		1.3	Implement measures to control identified hazards in accordance with procedures and duty of care
		1.4	Identify requirements for materials, quality, production and equipment checks
2	**Set up mould and materials to procedures**	2.1	Check materials, resins and fibres are correct and prepared to specifications
		2.2	Inspect and prepare mould as required
		2.3	Prepare jigs, fixtures and tools as required
		2.4	Take appropriate action for non-conforming items
		2.5	Set up date, batch and materials markings to specifications, as required
		2.6	Complete other checks
3	**Hand lay up composites to procedures**	3.1	Apply materials to the mould to specification
		3.2	Monitor product/process quality
		3.3	Make adjustments to remedy faults and non-conformity as required
		3.4	Adjust work to minimise scrap and waste
4	**Anticipate and solve problems**	4.1	Recognise a problem or a potential problem
		4.2	Determine problems needing priority action

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4.3 Refer problems outside area of responsibility to appropriate person, with possible causes

4.4 Seek information and assistance as required to solve problems.

4.5 Solve problems within area of responsibility

4.6 Follow through items initiated until final resolution has occurred

Foundation Skills

This section describes those required skills (language, literacy and numeracy) 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.

Applicable legislation, regulations, standards and codes of practice include:

- health, safety and environmental (HSE) legislation, regulations and codes of practice relevant to the workplace, manual handling and hazardous materials
- Australian/international standards relevant to the materials being used and products being made
- any relevant licence and certification requirements.

All operations to which this unit applies are subject to stringent HSE requirements, which may be imposed through state/territory or federal legislation, and these must not be compromised at any time. Where there is an apparent conflict between performance criteria and such requirements the

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legislative requirements take precedence.

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 any combination of:

- 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:

- open moulds for composite products
- hand mixing equipment and stirrers
- knives and cutters to trim fibres
- hand application tools, such as rollers and brushes.

Additional tools and equipment will be selected as required from:

- hand tools
- hoists/lifting equipment not requiring any special permits or licences
- manual handling aids, such as hand carts and trolleys
- relevant personal protective equipment (PPE).

Hazards

Hazards must be identified and controlled. Identifying hazards requires consideration of:

- glass and other fibre hazards (inhalation and skin penetration)
- hazardous products and materials
- cutting equipment
- sharp edges, swarf and scrap
- protrusions or obstructions
- slippery surfaces, spills or leaks
- rotational equipment or vibration
- smoke, dust, vapours or other atmospheric hazards
- electricity

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- gas
- gases and liquids under pressure
- structural hazards
- equipment failures
- machinery, equipment and product mass
- other hazards that might arise.

Problems

Non-routine problems must be resolved by applying operational knowledge to develop new solutions, either individually or in collaboration with relevant experts, to:

- determine problems needing action
- determine possible fault causes
- develop solutions to problems which do not have a known solution
- follow through items initiated until final resolution has occurred
- report problems outside area of responsibility to designated person.

Non-routine problems are unexpected problems or variations of previous problems and include one or more of:

- unstable process variables
- sub-optimal operation
- variations in feed rates
- variations in quality
- emergency situations
- mould release problems
- warping or cracking after moulding
- voids due to resin drainage
- intermittent faults.

Operational knowledge includes one or more of:

- procedures
- training
- technical information, such as journals and engineering specifications
- remembered experience
- relevant knowledge obtained from appropriate people.

Unit Mapping Information

Release 1. Supersedes and is equivalent to PMBPROD347B Produce composites using hand lamination

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Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=932aacef-7947-4c80-acc6-593719fe4090

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Assessment Requirements for PMBPROD347 Produce composites using hand lamination

Modification History

Release 1. Supersedes and is equivalent to PMBPROD347B Produce composites using hand lamination

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 procedures, job specifications, instruments/control panels, material labels and safety data sheets (SDS)
- select and prepare materials, including:
  - resins
  - fibre reinforcement
  - gel coats
  - cores, fillers and surface finishes
- set up moulds and apply materials to moulds to meet specifications
- monitor key variables, including:
  - temperature of environment/resin
  - time since mixing vs pot life of resin
  - air flow/ventilation
  - viscosity of resin
  - differing fibres and fabrics
  - compacting density of application
  - product integrity and general conformance to specification
- make adjustments to remedy faults and non-conformity
- identify hazards and apply relevant hazard controls
- apply safety procedures
- apply housekeeping procedures
- apply waste management procedures
- recognise early warning signs of equipment/processes needing attention or with potential problems
- distinguish between causes of problems, including:
  - operational problems
  - procedural problems
  - materials properties
  - process variables

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- recognise and prioritise problems requiring action
- resolve non-routine problems
- communicate effectively with team/work group and supervisors
- complete workplace records
- do basic arithmetical manipulations, including additions, subtractions, divisions, fractions and percentages.

Knowledge Evidence

Must provide evidence that demonstrates knowledge relevant to their job sufficient to operate independently and to solve routine and non-routine problems, including knowledge of:

- hand lamination manufacturing process and phases of the cycle
- characteristics of materials and their behaviour in relation process conditions and stages of production
- characteristics and properties of materials required to form a composite structure of the required strength and surface finish, including fibres and pot life of the resins used
- impact of resin mixtures, laying of materials and temperatures on product quality and production output
- quality requirements at each production stage
- common adjustments in process variables and their impact on product quality and production output
- impact of variations in raw materials and equipment operation in relation to final product
- possible changes to materials properties to better suit specific process requirements
- non-routine problems that may arise, the range of possible causes and appropriate actions
- organisation procedures relevant to the work environment/job role
- hierarchy of control
- hazards that may arise in the job/work environment and:
  - their possible causes
  - potential consequences
  - appropriate risk controls.

Assessment Conditions

- The unit should be assessed holistically and the judgement of competence shall be based on a holistic assessment of the evidence.
- In all plants it may be appropriate to assess this unit concurrently with units such as:
  - teamwork
  - communication.
- Where the assessee does not currently possess evidence of competency in *PMBPROD247 Hand lay up composites*, it may be co-assessed with this unit.
- The collection of performance evidence:
  - should occur over a range of situations which include typical disruptions to normal, smooth operation of an operating plant

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  - will typically include a supervisor/third-party report or other evidence, 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 an appropriate industrial item of equipment requiring demonstration of operation, start and stop procedures 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 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.
- Assessment in a simulated environment should use evidence collected from demonstration of skills and one or more of:
  - walk-throughs
  - pilot plant operation
  - industry-based case studies/scenarios
  - ‘what ifs’.
- Knowledge evidence may be collected concurrently with performance evidence or through an independent process, such as workbooks, written assessments or interviews.
- 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.
- Assessors must satisfy the assessor competency requirements that are in place at the time of the assessment as set by the VET regulator.
- In addition the assessor or anyone acting in subject matter expert role in assessment shall demonstrate both technical competency and currency. If the assessor cannot demonstrate technical competency and currency they shall assess with a subject matter expert who does meet these requirements.
- Technical competence can be demonstrated through one or more of:
  - relevant VET or other qualification/Statement of Attainment
  - appropriate workplace experience undertaking the type of work being assessed under routine and non-routine conditions
  - appropriate workplace experience supervising/evaluating the type of work being assessed under routine and non-routine conditions

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- Currency can be demonstrated through one or more of:
  - being currently employed undertaking the type of work being assessed
  - being employed by the organisation undertaking the type of work being assessed and having maintained currency in accordance with that organisation's policies and procedures
  - having consulted/had contact with an organisation undertaking the type of work being assessed within the last twelve months, the consultation/contact being related to assessment
  - conducting on the job training/assessments of the type of work being assessed
  - being an active member of a relevant professional body and participating in activities relevant to the assessment of this type of work.

Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=932aacef-7947-4c80-acc6-593719fe4090

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PMBPROD375 Vulcanise products using an autoclave

Modification History

Release 1. Supersedes and is equivalent to PMBPROD375B Vulcanise products using an autoclave

Application

This unit of competency covers the skills and knowledge required to operate and adjust an autoclave to vulcanise/cure rubber products.

This unit of competency applies to experienced operators who are required to load product, bring the autoclave online, monitor operations, maintain continuity of process, make adjustments to remedy faults and non-conformity and solve problems within area of responsibility.

This unit of competency applies to an experienced operator demonstrating theoretical and technical knowledge and well developed skills in situations that require some discretion and judgement. The operator may work alone or as a member of a team or group and will work in liaison with other shift team members, team leader and supervisor, as appropriate.

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

Pre-requisite Unit

Nil

Competency Field

Production

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.

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1	**Plan own work requirements**	1.1	Identify work requirements from workplace procedures
		1.2	Identify equipment and processes used for materials preparation, vulcanising and any related production process and for the downstream operations
		1.3	Identify hazards connected with materials and process from workplace reference materials, including safety data sheets (SDS) and equipment instructions
		1.4	Implement measures to control identified hazards in line with procedures and duty of care
		1.5	Identify requirements for materials, quality, production and equipment checks
2	**Set up autoclave vulcanising process**	2.1	Identify and read equipment information, quality specifications and standard operating procedures (SOPs)
		2.2	Check heat and pressure settings and process adjustments for conformity to procedures
		2.3	Compare equipment and material condition to known optimum condition and take appropriate action in accordance with procedures (including, where authorised, making adjustments within overall specifications to process settings to ensure product output quality is appropriate).
		2.4	Check that all gauges are operating, safety features are activated or fitted, locks and guards are in place
3	**Operate and make adjustments to the autoclave process to procedures**	3.1	Load and close autoclave and bring on line
		3.2	Monitor production outputs, equipment operating temperatures and pressures
		3.3	Make adjustments to remedy faults and non-conformity as required
		3.4	Shut down, vent and unload autoclave
		3.5	Take samples as required and identify product out of specification

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		3.6	Note and report non-conformity to required workplace specifications, following workplace procedures
		3.7	Clean, adjust and lubricate equipment as required
		3.8	Pause or stop equipment in an emergency, following procedures
4	**Respond to product quality improvement requests**	4.1	Monitor vulcanising process and note conditions which may affect product quality standards
		4.2	Report process variations
		4.3	Note and implement changes in standard operating procedures and specifications
5	**Anticipate and solve problems**	5.1	Recognise a problem or a potential problem
		5.2	Determine problems needing priority action
		5.3	Refer problems outside area of responsibility to appropriate person, with possible causes
		5.4	Seek information and assistance as required to solve problems
		5.5	Solve problems within area of responsibility
		5.6	Follow through items initiated until final resolution has occurred

Foundation Skills

This section describes those required skills (language, literacy and numeracy) that are essential to performance.

Foundation skills essential to performance are explicit in the performance criteria of this unit of competency.

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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.

Applicable legislation, regulations, standards and codes of practice include:

- health, safety and environmental (HSE) legislation, regulations and codes of practice relevant to the workplace, manual handling and hazardous materials
- Australian/international standards relevant to the materials being used and products being made
- any relevant licence and certification requirements.

All operations to which this unit applies are subject to stringent HSE requirements, which may be imposed through state/territory or federal legislation, and these must not be compromised at any time. Where there is an apparent conflict between performance criteria and such requirements the legislative requirements take precedence.

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 any combination of:

- 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:

- autoclave
- ancillary equipment that is integral to the process other than boiler

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operation.

Additional tools and equipment will be selected as required from:

- hand tools used in this process
- knives and other bag opening equipment
- hoists/lifting equipment not requiring any special permits or licences
- manual handling aids, such as hand carts and trolleys
- relevant personal protective equipment (PPE).

Hazards

Hazards must be identified and controlled. Identifying hazards requires consideration of:

- confined spaces
- weight, shape, volume of materials to be handled
- hazardous products and materials
- rotational equipment or vibration
- knives and cutting blades
- sharp edges, protrusions or obstructions
- slippery surfaces, spills or leaks
- smoke, dust or other atmospheric hazards
- high temperatures
- electricity
- gas
- gases and liquids under pressure
- structural hazards
- equipment failures
- machinery, equipment and product mass
- other hazards that might arise.

Problems

Routine and non-routine problems must be resolved.

Non-routine problems must be resolved by applying operational knowledge to develop new solutions, either individually or in collaboration with relevant experts, to:

- determine problems needing action
- determine possible fault causes
- develop solutions to problems which do not have a known solution
- follow through items initiated until final resolution has occurred
- report problems outside area of responsibility to designated person.

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Non-routine problems are unexpected problems or variations of previous problems and include one or more of:

- unstable process variables
- sub-optimal operation
- variations in feed rates
- variations in quality
- emergency situations
- intermittent faults.

Operational knowledge includes one or more of:

- procedures
- training
- technical information, such as journals and engineering specifications
- remembered experience
- relevant knowledge obtained from appropriate people.

Routine problems are predictable and have known solutions and include one or more of:

- processing problems
- equipment malfunctions
- out of specification equipment operation
- variations in materials
- wrong cure cycle
- changed product cure systems/section
- steam problems.

Unit Mapping Information

Release 1. Supersedes and is equivalent to PMBPROD375B Vulcanise products using an autoclave

Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=932aacef-7947-4c80-acc6-593719fe4090

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Assessment Requirements for PMBPROD375 Vulcanise products using an autoclave

Modification History

Release 1. Supersedes and is equivalent to PMBPROD375B Vulcanise products using an autoclave

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 procedures, job specifications, instruments/control panels, material labels and safety data sheets (SDS)
- set up autoclave vulcanising process and materials to meet specifications
- operate the equipment
- monitor key variables, including:
  - operating temperatures
  - stacking and loading off product for autoclaving
  - material composition
  - operating pressure
  - cycle time
  - output rate product integrity and general conformance to specification
- make adjustments to remedy faults and non-conformity
- load and unload products
- maintain output and product quality using appropriate instruments, controls, test information and readings
- safely shut down equipment in normal and abnormal circumstances
- leave machine in appropriate condition with any required locks, tags or notices
- identify hazards and apply relevant hazard controls
- apply safety procedures
- apply housekeeping procedures
- apply waste management procedures
- recognise early warning signs of equipment/processes needing attention or with potential problems
- distinguish between causes of problems, including:
  - operational problems
  - instrument failure/malfunction
  - electrical failure/malfunction
  - mechanical failure/malfunction
  - wrong readings

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    - equipment design deficiencies
    - materials properties
    - process variables
    - raw material variations/contamination
    - process abnormalities
    - procedural errors
- recognise and prioritise problems requiring action
- resolve routine and non-routine problems
- communicate effectively with team/work group and supervisors
- complete workplace records
- do basic arithmetical manipulations, including additions, subtractions, divisions, fractions and percentages.

Knowledge Evidence

Must provide evidence that demonstrates knowledge relevant to their job sufficient to operate independently and to solve routine and non-routine problems including knowledge of:

- function and operating principles of vulcanising equipment, machine components and ancillary equipment
- impact of variations in machine process conditions and raw materials on product quality and production output
- factors which may affect product quality or production output and appropriate remedies
- vulcanising process and phases of the cycle
- characteristics of materials and their behaviour in relation process conditions and stages of production
- quality requirements at each production stage
- common adjustments in process variables and their impact on product quality and production output
- impact of variations in raw materials and equipment operation in relation to final product
- possible changes to materials properties to better suit specific process requirements
- routine and non-routine problems that may arise, the range of possible causes and appropriate actions
- organisation procedures relevant to the work environment/job role
- hierarchy of control
- hazards that may arise in the job/work environment and:
    - their possible causes
    - potential consequences
    - appropriate risk controls.

Assessment Conditions

- The unit should be assessed holistically and the judgement of competence shall be based on a holistic assessment of the evidence.

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- In all plants it may be appropriate to assess this unit concurrently with units such as:
  - teamwork
  - communication.
- The collection of performance evidence:
  - should occur over a range of situations which include typical disruptions to normal, smooth operation of an operating plant
  - will typically include a supervisor/third-party report or other evidence, 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 an appropriate industrial item of equipment requiring demonstration of operation, start and stop procedures 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 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.
- Assessment in a simulated environment should use evidence collected from demonstration of skills and one or more of:
  - walk-throughs
  - pilot plant operation
  - industry-based case studies/scenarios
  - ‘what ifs’.
- Knowledge evidence may be collected concurrently with performance evidence or through an independent process, such as workbooks, written assessments or interviews.
- 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.
- Assessors must satisfy the assessor competency requirements that are in place at the time of the assessment as set by the VET regulator.
- In addition the assessor or anyone acting in subject matter expert role in assessment shall demonstrate both technical competency and currency. If the assessor cannot demonstrate technical competency and currency they shall assess with a subject matter expert who does meet these requirements.

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- Technical competence can be demonstrated through one or more of:
  - relevant VET or other qualification/Statement of Attainment
  - appropriate workplace experience undertaking the type of work being assessed under routine and non-routine conditions
  - appropriate workplace experience supervising/evaluating the type of work being assessed under routine and non-routine conditions
- Currency can be demonstrated through one or more of:
  - being currently employed undertaking the type of work being assessed
  - being employed by the organisation undertaking the type of work being assessed and having maintained currency in accordance with that organisation's policies and procedures
  - having consulted/had contact with an organisation undertaking the type of work being assessed within the last twelve months, the consultation/contact being related to assessment
  - conducting on the job training/assessments of the type of work being assessed
  - being an active member of a relevant professional body and participating in activities relevant to the assessment of this type of work.

Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=932aacef-7947-4c80-acc6-593719fe4090

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PMBPROD380 Produce composites using chopper gun/depositor

Modification History

Release 1. Supersedes and is equivalent to PMBPROD380B Produce composites using chopper gun/depositor

Application

This unit of competency covers the skills and knowledge required to operate and adjust chopper gun/depositor equipment to produce composite materials product.

This unit of competency applies to experienced operators who are required to set up equipment and materials, monitor equipment operation, make adjustments to remedy faults and non-conformity and solve problems within area of responsibility.

This unit of competency applies to an experienced operator demonstrating theoretical and technical knowledge and well developed skills in situations that require some discretion and judgement. The experienced operator may work alone or as a member of a team or group and will work in liaison with other shift team members, team leader and supervisor, as appropriate.

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

Pre-requisite Unit

PMBPROD280 Operate resin-glass depositor equipment

Competency Field

Production

Unit Sector

Not applicable

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Elements and Performance Criteria

Elements describe the essential outcomes.		Performance criteria describe the performance needed to demonstrate achievement of the element.	
1	**Plan own work requirements**	1.1	Identify equipment and processes to be used for production process and upstream and downstream operations from production plan or request
		1.2	Identify and check materials required, including additives
		1.3	Implement measures to control identified hazards in line with procedures and duty of care
		1.4	Identify and check emergency stops, guards and controls
		1.5	Identify requirements for materials, quality, production and equipment checks
		1.6	Identify materials, waste management and housekeeping needs
2	**Set up equipment, mould and materials to procedures**	2.1	Determine equipment requirements
		2.2	Adjust controls as required for factors, such as ambient conditions, temperature and materials
		2.3	Check equipment, raw material and mould all match job requirements
		2.4	Check materials, resins, fibres, release agents are correct
		2.5	Take appropriate action for non-conforming materials
		2.6	Set up date, batch and materials markings to specifications, as required
		2.7	Complete pre-start checks
3	**Hand operate chopper gun/depositor**	3.1	Use chopper gun/depositor to apply materials to the mould to procedures
		3.2	Monitor product quality, thickness, colour and integrity
		3.3	Make adjustments to remedy faults and

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			non-conformances as required
		3.4	Collect and segregate scrap, trim and other materials as required
		3.5	Shut off machine safely and correctly as required following procedures
4	**Anticipate and solve problems**	4.1	Recognise a problem or a potential problem
		4.2	Determine problems needing priority action
		4.3	Refer problems outside area of responsibility to appropriate person, with possible causes
		4.4	Solve problems within area of responsibility
		4.5	Seek information and assistance as required to solve problems
		4.6	Follow through items initiated until final resolution has occurred

Foundation Skills

This section describes those required skills (language, literacy and numeracy) 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.

Applicable legislation, regulations, standards and codes of practice include:

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- health, safety and environmental (HSE) legislation, regulations and codes of practice relevant to the workplace, manual handling and hazardous materials
- Australian/international standards relevant to the materials being used and products being made
- any relevant licence and certification requirements.

All operations to which this unit applies are subject to stringent HSE requirements, which may be imposed through state/territory or federal legislation, and these must not be compromised at any time. Where there is an apparent conflict between performance criteria and such requirements the legislative requirements take precedence.

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 any combination of:

- 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:

- chopper gun/depositor
- pots, pumps and controls
- open moulds for composite products
- ancillary equipment that is integral to the process.

Additional tools and equipment will be selected as required from:

- hand tools used in the process
- hoists/lifting equipment not requiring any special permits or licences
- manual handling aids, such as hand carts and trolleys
- relevant personal protective equipment (PPE).

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Hazards

Hazards must be identified and controlled. Identifying hazards requires consideration of:

- weight, shape, volume of materials to be handled
- hazardous products and materials
- rotational equipment or vibration
- knives, sharp edges, protrusions or obstructions
- slippery surfaces, spills or leaks
- smoke, dust, vapours or other atmospheric hazards
- high temperatures
- electricity
- gas
- gases and liquids under pressure
- structural hazards
- equipment failures
- machinery, equipment and product mass
- other hazards that might arise.

Problems

Non-routine problems must be resolved by applying operational knowledge to develop new solutions, either individually or in collaboration with relevant experts, to:

- determine problems needing action
- determine possible fault causes
- develop solutions to problems which do not have a known solution
- follow through items initiated until final resolution has occurred
- report problems outside area of responsibility to designated person.

Non-routine problems are unexpected problems or variations of previous problems and include one or more of:

- variations in quality
- emergency situations
- intermittent faults.

Operational knowledge includes one or more of:

- procedures
- training
- technical information, such as journals and engineering specifications
- remembered experience
- relevant knowledge obtained from appropriate people.

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Unit Mapping Information

Release 1. Supersedes and is equivalent to PMBPROD380B Produce composites using chopper gun/depositor

Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=932aacef-7947-4c80-acc6-593719fe4090

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Assessment Requirements for PMBPROD380 Produce composites using chopper gun/depositor

Modification History

Release 1. Supersedes and is equivalent to PMBPROD380B Produce composites using chopper gun/depositor

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 procedures, job specifications, instruments/control panels, material labels and safety data sheets (SDS)
- set up chopper gun/depositor equipment and prepare materials to meet specifications
- operate the equipment to apply materials to moulds
- monitor key variables, including:
  - temperatures and humidity of environment
  - resin to fibre ratios
  - surface finish/appearance
  - product integrity and general conformance to specification
- make adjustments to remedy faults and nonconformity
- maintain output and product quality
- safely shut off equipment in normal and abnormal circumstances
- identify hazards and apply relevant hazard controls
- apply safety procedures
- apply housekeeping procedures
- apply waste management procedures
- recognise early warning signs of equipment/processes needing attention or with potential problems
- distinguish between causes of problems, including:
  - operational problems
  - materials properties
  - process variables
  - procedural problems
- recognise and prioritise problems requiring action
- resolve non-routine problems
- communicate effectively with team/work group and supervisors
- complete workplace records
- do basic arithmetical manipulations, including additions, subtractions, divisions, fractions and percentages.

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Knowledge Evidence

Must provide evidence that demonstrates knowledge relevant to their job sufficient to operate independently and to solve routine and non-routine problems, including knowledge of:

- function and operating principles of chopper gun/depositor equipment
- chopper gun/depositor spraying process and stages of production
- properties of the materials required to form a composite structure of the required strength and surface finish, including the importance of gel coat properties and bonding
- requirements for correct spraying of materials to the mould surface
- pot life of the resins used
- clean-out procedures
- characteristics of materials and their behaviour in relation process conditions and stages of production
- quality requirements at each production stage
- common adjustments in process conditions and their impact on product quality and production output
- impact of variations in raw materials and equipment operation in relation to final product
- possible changes to materials properties to better suit specific process requirements
- non-routine problems that may arise, the range of possible causes and appropriate actions
- organisation procedures relevant to the work environment/job role
- hierarchy of control
- hazards that may arise in the job/work environment and:
  - their possible causes
  - potential consequences
  - appropriate risk controls.

Assessment Conditions

- The unit should be assessed holistically and the judgement of competence shall be based on a holistic assessment of the evidence.
- In all plants it may be appropriate to assess this unit concurrently with units such as:
  - teamwork
  - communication.
- Where the assessee does not currently possess evidence of competency in *PMBPROD2980 Operate resin-glass depositor equipment*, it may be co-assessed with this unit.
- The collection of performance evidence:
  - should occur over a range of situations which include typical disruptions to normal, smooth operation of an operating plant
  - will typically include a supervisor/third-party report or other evidence, 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

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  - must include the use of an appropriate industrial item of equipment requiring demonstration of operation, start and stop procedures 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 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.
- Assessment in a simulated environment should use evidence collected from demonstration of skills and one or more of:
  - walk-throughs
  - pilot plant operation
  - industry-based case studies/scenarios
  - 'what ifs'.
- Knowledge evidence may be collected concurrently with performance evidence or through an independent process, such as workbooks, written assessments or interviews.
- 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.
- Assessors must satisfy the assessor competency requirements that are in place at the time of the assessment as set by the VET regulator.
- In addition the assessor or anyone acting in subject matter expert role in assessment shall demonstrate both technical competency and currency. If the assessor cannot demonstrate technical competency and currency they shall assess with a subject matter expert who does meet these requirements.
- Technical competence can be demonstrated through one or more of:
  - relevant VET or other qualification/Statement of Attainment
  - appropriate workplace experience undertaking the type of work being assessed under routine and non-routine conditions
  - appropriate workplace experience supervising/evaluating the type of work being assessed under routine and non-routine conditions
- Currency can be demonstrated through one or more of:
  - being currently employed undertaking the type of work being assessed
  - being employed by the organisation undertaking the type of work being assessed and having maintained currency in accordance with that organisation's policies and procedures

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- having consulted/had contact with an organisation undertaking the type of work being assessed within the last twelve months, the consultation/contact being related to assessment
- conducting on the job training/assessments of the type of work being assessed
- being an active member of a relevant professional body and participating in activities relevant to the assessment of this type of work.

Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=932aacef-7947-4c80-acc6-593719fe4090

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PMBPROD430 Trial a new die/tool

Modification History

Release 1. Supersedes and is equivalent to PMBPROD430B Trial a new die/tool

Application

This unit of competency covers the skills and knowledge required to trial new high pressure dies used for processes such as injection or blow moulding. It applies to all plastic and rubber processes which involve a die or tool, such as injection or blow moulding.

This unit of competency applies to technicians who are required to install required tooling, prepare machines for trials, perform trial procedures and make adjustments as required.

This unit of competency applies to technicians demonstrating theoretical and technical knowledge and well developed skills in situations that require some discretion and judgement. The technicians may work alone or as a member of a team or group and will work in liaison with other shift team members, team leader and supervisor, as appropriate.

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

Pre-requisite Unit

Nil

Competency Field

Production

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	**Determine trial**	1.1	Gather all relevant information available

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	requirements	1.2	Interpret job sheets or equivalent instructions correctly
		1.3	Confirm machine/equipment suitability
		1.4	Confirm die state
		1.5	Confirm readiness of raw materials
2	**Set die and machine**	2.1	Follow safe working practices
		2.2	Fit and set up die
		2.3	Set up process conditions
		2.4	Set machine to meet specifications and operational requirements
		2.5	Dry cycle machine and die according to procedures
3	**Perform die trial**	3.1	Carry out trial process following enterprise procedures
		3.2	Identify and record variations from specifications
		3.3	Monitor control panel and interpret test results for fluctuations, variations and trends
		3.4	Determine process limitations with respect to product and production specifications
		3.5	Adjust controls to ensure parameters are maintained to job specifications
4	**Rectify equipment and quality problems**	4.1	Identify range of faults that will affect product and production specifications
		4.2	Determine changes required to tooling and equipment to meet product and production specifications
		4.3	Maintain appropriate records related to machinery and equipment to enterprise standards
		4.4	Identify problems
		4.5	Worn or damaged tooling is identified and changed as

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			required
		4.6	Rectify problems that are within area of responsibility
		4.7	Report problems that are outside area of responsibility to appropriate personnel
5	**Complete trial**	5.1	Shut down equipment as required
		5.2	Record trial results
		5.3	Return machine to service
		5.4	Instruct machine operator

Foundation Skills

This section describes those required skills (language, literacy and numeracy) 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.

Applicable legislation, regulations, standards and codes of practice include:

- health, safety and environmental (HSE) legislation, regulations and codes of practice relevant to the workplace, equipment and production processes and hazardous materials
- Australian/international standards relevant to the materials being used and products being made
- any relevant licence and certification requirements.

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All operations to which this unit applies are subject to stringent HSE requirements, which may be imposed through state/territory or federal legislation, and these must not be compromised at any time. Where there is an apparent conflict between performance criteria and such requirements the legislative requirements take precedence.

Equipment

Equipment includes the setting and trial of one or more of:

- injection moulding machines
- blow moulding machines
- similar machines
-

Operational requirements

Operational requirements include one or more of:

- die/tool set up and adjustment
- machine speed
- cycle time
- temperatures, including heating and cooling rates
- product quality measures
- any other specified requirement.

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 any combination of:

- 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.

Simple dies

Simple dies include one or more of:

- two plates, including ejection systems operating in the mould open axis

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- cavity
- back plates
- support plates
- cold runner
- sprue
- nozzle seat
- locating ring-tab
- sub, fan, diaphragm and direct gating
- ejector pins and sleeves
- ejector and stripper plates.

Advanced dies

Advanced dies include one or more of:

- a two or three plate die with one or more product forming components which move in a direction other than the mould open axis, and which are driven by the mould rather than external actuation
- sliding blocks or cores actuated by skew pins or cams
- baffled, spiral, tube, and heat pipe cooling systems
- rising cores
- internally actuated unscrewing systems.

Complex dies

Complex dies include one or more of:

- at least one external power and control source to actuate product forming components, which move in a direction other than the mould open axis, and require sequencing with the mould operation
- moulds which retain molten material within the mould between cycles
- hot runners
- insulated runners
- externally actuated sliding blocks, cores and unscrewing systems
- safety interlocks.

Hazards

Hazards must be identified and controlled. Identifying hazards requires consideration of:

- material spills or leaks
- hazardous products and materials
- manual handling hazards
- stationary and moving machinery
- machinery hazards

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- protrusions or obstructions
- slippery surfaces
- smoke, dust, fumes, vapours or other atmospheric hazards
- humidity, air temperatures and radiant heat
- noise, light and energy sources
- other hazards that might arise.

Causes of faults include one or more of:

Causes of faults include one or more of:

- materials
- heat
- equipment adjustment
- equipment set-up.

Problems/solutions

Problems/solutions include one or more of:

- selecting the right tools for a new job
- using new and untried die or tool
- adapting the process to the new product and die/tool
- observing the process to obtain useful trial data
- comparing the product to the desired specification
- determining the cause of non-compliances.

Unit Mapping Information

Release 1. Supersedes and is equivalent to PMBPROD430B Trial a new die/tool

Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=932aacef-7947-4c80-acc6-593719fe4090

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Assessment Requirements for PMBPROD430 Trial a new die/tool

Modification History

Release 1. Supersedes and is equivalent to PMBPROD430B Trial a new die/tool

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 procedures, job specifications, material labels and safety data sheets (SDS)
- determine production requirements
- discuss work progress with other workers
- conduct pre-start checks
- start up and shut down equipment following appropriate procedures
- inspect product conformance to requirements
- identify and rectify routine faults
- identify routine product problems and notify appropriate persons
- distinguish between causes of problems, including:
  - operational problems
  - materials properties
  - process variables
  - procedural errors
- store equipment, materials and product appropriately
- adhere to safety requirements.

Knowledge 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 knowledge of:

- the impact of incorrect or faulty materials
- types of products made with different processes
- changes to raw materials during the process
- production work flow sequences and materials demands
- selection practices for equipment, materials, processes and procedures
- materials and process hazards
- appropriate hazard control procedures
- the importance of material properties and qualities
- the importance of process conditions
- approved procedures

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- appropriate action to resolve faults or report faults
- start-up and shutdown procedures
- safety requirements.

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
  - will typically include a supervisor/third-party report or other evidence, 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 industrial equipment requiring demonstration of operation, start and stop procedures 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 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.
- Knowledge evidence may be collected concurrently with performance evidence or through an independent process, such as workbooks, written assessments or interviews.
- 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.
- Assessors must satisfy the assessor competency requirements that are in place at the time of the assessment as set by the VET regulator.
- In addition the assessor or anyone acting in subject matter expert role in assessment shall demonstrate both technical competency and currency. If the assessor cannot demonstrate technical competency and currency they shall assess with a subject matter expert who does meet these requirements.
- Technical competence can be demonstrated through one or more of:
  - relevant VET or other qualification/Statement of Attainment
  - appropriate workplace experience

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  - appropriate workplace experience supervising/evaluating the type of work being assessed
- Currency can be demonstrated through one or more of:
  - being currently employed undertaking the type of work being assessed
  - being employed by the organisation undertaking the type of work being assessed and having maintained currency
  - having consulted/had contact with an organisation undertaking the type of work being assessed within the last twelve months, the consultation/contact being related to assessment
  - conducting on the job training/assessments of the type of work being assessed.

Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=932aacef-7947-4c80-acc6-593719fe4090

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PMBPROD431 Trial a new, advanced or complex mould

Modification History

Release 1. Supersedes and is equivalent to PMBPROD431B Trial a new, advanced or complex mould

Application

This unit of competency covers the skills and knowledge required to trial new, advanced or complex moulds. It applies to 'low pressure' moulds as used in rotomoulding, thermoforming and composites manufacturing.

This unit of competency applies to technicians who are required to install required tooling, prepare machines for trials, perform trial procedures and make adjustments as required.

This unit of competency applies to technicians demonstrating theoretical and technical knowledge and well developed skills in situations that require some discretion and judgement. The technicians may work alone or as a member of a team or group and will work in liaison with other shift team members, team leader and supervisor, as appropriate.

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

Pre-requisite Unit

Nil

Competency Field

Production

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.

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1	**Determine trial requirements**	1.1	Gather all relevant information available
		1.2	Interpret job sheets or equivalent instructions correctly
		1.3	Confirm machine/equipment suitability
		1.4	Confirm mould state
		1.5	Confirm readiness of raw materials
2	**Set mould and machine**	2.1	Follow safe working practices
		2.2	Fit and set up mould
		2.3	Set up process condition
		2.4	Set machine to meet specifications and operational requirements
		2.5	Dry cycle machine and mould to procedures
3	**Perform mould trial**	3.1	Carry out trial process following enterprise procedures
		3.2	Identify and record variations from specifications
		3.3	Monitor control panel and interpret test results for fluctuations, variations and trends
		3.4	Determine process limitations with respect to product and production specifications
		3.5	Adjust controls to ensure parameters are maintained to job specifications
4	**Rectify equipment and quality problems**	4.1	Identify range of faults that will affect product and production specifications
		4.2	Determine changes required to tooling and equipment to meet product and production specifications
		4.3	Maintain appropriate records related to machinery and equipment to enterprise standards
		4.4	Identify problems

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		4.5	Identify worn or damaged tooling and change as required
		4.6	Rectify problems that are within area of responsibility
		4.7	Report problems that are outside area of responsibility to appropriate personnel
5	**Complete trial**	5.1	Shut down equipment as required
		5.2	Record trial results
		5.3	Return machine to service
		5.4	Instruct machine operator

Foundation Skills

This section describes those required skills (language, literacy and numeracy) 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.

Applicable legislation, regulations, standards and codes of practice include:

- health, safety and environmental (HSE) legislation, regulations and codes of practice relevant to the workplace, equipment and production processes and hazardous materials
- Australian/international standards relevant to the materials being used and products being made

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- any relevant licence and certification requirements.

All operations to which this unit applies are subject to stringent HSE requirements, which may be imposed through state/territory or federal legislation, and these must not be compromised at any time. Where there is an apparent conflict between performance criteria and such requirements the legislative requirements take precedence.

Equipment

Equipment includes the setting and trial of one or more of:

- rotational moulding machines:
  - rock and roll
  - clamshell
  - vertical or up and over rotational
  - shuttle
  - swing arm
  - carousel
- thermoforming:
  - wood patterns moulds
  - cast aluminium moulds
  - machined aluminium moulds
  - composite moulds
  - complex moulds
- vacuum forming systems
- similar systems.

Operational requirements

Operational requirements include one or more of:

- mould set up and adjustment
- machine speed
- ratios for rotation
- cycle time
- external temperatures
- humidity
- type of heating used
- cooling rates
- product quality measures
- any other specified requirement.

Procedures

All operations must be performed in accordance with relevant

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procedures.

Procedures are written, verbal, visual, computer-based or in some other form, and include one or any combination of:

- 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.

Hazards

Hazards must be identified and controlled. Identifying hazards requires consideration of:

- material spills or leaks
- hazardous products and materials
- manual handling hazards
- stationary and moving machinery
- machinery hazards
- protrusions or obstructions
- slippery surfaces
- smoke, dust, fumes, vapours or other atmospheric hazards
- humidity, air temperatures and radiant heat
- noise, light and energy sources
- other hazards that might arise.

Causes of faults

Causes of faults include one or more of:

- materials
- heat
- equipment adjustment
- equipment set-up.

Problems/solutions

Problems/solutions include one or more of:

- selecting the right tools for a new job
- using new and untried moulds
- adapting the process to the new product and die/tool

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- observing the process to obtain useful trial data
- comparing the product to the desired specification
- determining the cause of non-compliances.

Unit Mapping Information

Release 1. Supersedes and is equivalent to PMBPROD431B Trial a new, advanced or complex mould

Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=932aacef-7947-4c80-acc6-593719fe4090

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Assessment Requirements for PMBPROD431 Trial a new, advanced or complex mould

Modification History

Release 1. Supersedes and is equivalent to PMBPROD431B Trial a new, advanced or complex mould

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 procedures, job specifications, material labels and safety data sheets (SDS)
- determine production requirements
- discuss work progress with other workers
- conduct pre-start checks
- start up and shut down equipment following appropriate procedures
- inspect product conformance to requirements
- identify and rectify routine faults
- identify routine product problems and notify appropriate persons
- distinguish between causes of problems, including:
  - operational problems
  - materials properties
  - process variables
  - procedural errors
- store equipment, materials and product appropriately
- adhere to safety requirements.

Knowledge 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 knowledge of:

- the impact of incorrect or faulty materials
- types of products made with different processes
- changes to raw materials during the process
- production work flow sequences and materials demands
- selection practices for equipment, materials, processes and procedures
- production equipment capability
- materials and process hazards
- appropriate hazard control procedures

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- the importance of material properties and qualities
- the importance of process conditions
- approved procedures
- appropriate action to resolve faults or report faults
- start-up and shutdown procedures
- safety requirements.

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
    - will typically include a supervisor/third-party report or other evidence, 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 industrial equipment requiring demonstration of operation, start and stop procedures 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 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.
- Knowledge evidence may be collected concurrently with performance evidence or through an independent process, such as workbooks, written assessments or interviews.
- 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.
- Assessors must satisfy the assessor competency requirements that are in place at the time of the assessment as set by the VET regulator.
- In addition the assessor or anyone acting in subject matter expert role in assessment shall demonstrate both technical competency and currency. If the assessor cannot demonstrate technical competency and currency they shall assess with a subject matter expert who does meet these requirements.

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- Technical competence can be demonstrated through one or more of:
  - relevant VET or other qualification/Statement of Attainment
  - appropriate workplace experience
  - appropriate workplace experience supervising/evaluating the type of work being assessed
- Currency can be demonstrated through one or more of:
  - being currently employed undertaking the type of work being assessed
  - being employed by the organisation undertaking the type of work being assessed and having maintained currency
  - having consulted/had contact with an organisation undertaking the type of work being assessed within the last twelve months, the consultation/contact being related to assessment
  - conducting on the job training/assessments of the type of work being assessed.

Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=932aacef-7947-4c80-acc6-593719fe4090

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PMBTECH301 Use material and process knowledge to solve problems

Modification History

Release 1. Supersedes and is equivalent to PMBTECH301B Use material and process knowledge to solve problems

Application

This unit of competency covers the skills and knowledge required to apply material and process knowledge to solve problems.

This unit of competency applies to experienced operators who are required to recognise actual and potential process and product problems; identify the role of polymers, additives and other materials in the problems; and determine corrective action.

This unit of competency applies to an experienced operator demonstrating theoretical and technical knowledge and well developed skills in situations that require some discretion and judgement. The operator may work alone or as a member of a team or group and will work in liaison with other shift team members, team leader and supervisor, as appropriate.

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

Pre-requisite Unit

Nil

Competency Field

Technical

Unit Sector

Not applicable

Elements and Performance Criteria

Elements describe the Performance criteria describe the performance needed to

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essential outcomes.		demonstrate achievement of the element.	
1	**Identify and apply applications of polymer materials**	1.1	Identify typical applications for common polymer materials
		1.2	Recognise physical properties of common polymers
		1.3	Use additives with knowledge of the effects of using the incorrect amount/type of additive
		1.4	Handle additives to minimise the associated risks
2	**Identify and apply impacts of impurities on polymer products**	2.1	Identify major impurities of concern to product and process
		2.2	Examine polymer materials for impurities
		2.3	Apply corrective actions to remove/compensate for impurities
3	**Determine expected material properties from polymer type and grade**	3.1	Identify the relationship between polymer type and polymer characteristics
		3.2	Identify the relationship between polymer grade and degree of polymerisation
		3.3	Identify the influence of polymer structure on properties
4	**Solve process problems related to polymer flow characteristics**	4.1	Use polymer flow test methods and recognise the importance of flow properties to the process
		4.2	Control critical factors leading to changes of state of the polymer during processing using knowledge of the causes
		4.3	Identify the relationship between polymer flow and other polymer properties
		4.4	Recognise process/product signs of incorrect polymer flow characteristics
		4.5	Recommend corrective actions for problems caused by polymer flow

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5	**Solve process/product problems related to heating and cooling of product/material in process**	5.1	Recognise the importance of the degree of cross linking on product properties if appropriate
		5.2	Recognise the importance of the degree of crystallisation/crystal size on product properties if appropriate
		5.3	Recognise the impact of shrinkage on product properties if appropriate
		5.4	Recognise the impact of annealing on product properties if appropriate
		5.5	Recognise process/product signs of incorrect heating/cooling
		5.6	Recommend corrective actions for problems caused by heating
6	**Solve process problems related to polymer faults**	6.1	Recognise an actual or a potential process problem
		6.2	Analyse that problem in a formal manner
		6.3	Determine appropriate corrective action
		6.4	Implement that corrective action if it is within the range of workplace authority
		6.5	Make recommendations for corrective action outside range of workplace authority
		6.6	Follow through on corrective action and make sure problem is resolved

Foundation Skills

This section describes those required skills (language, literacy and numeracy) that are essential to performance.

Foundation skills essential to performance are explicit in the performance criteria of this unit of competency.

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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.

Applicable legislation, regulations, standards and codes of practice include:

- health, safety and environmental (HSE) legislation, regulations and codes of practice relevant to the workplace, manual handling and hazardous materials
- Australian/international standards relevant to the materials being used and products being made
- any relevant licence and certification requirements.

All operations to which this unit applies are subject to stringent HSE requirements, which may be imposed through state/territory or federal legislation, and these must not be compromised at any time. Where there is an apparent conflict between performance criteria and such requirements the legislative requirements take precedence.

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 any combination of:

- problem solving techniques
- 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.

Hazards

Hazards must be identified and controlled. Identifying hazards requires consideration of:

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- hazardous products and materials
- vapours or other atmospheric hazards
- interaction of polymers, additives and other materials with process variables
- other hazards that might arise.

Unit Mapping Information

Release 1. Supersedes and is equivalent to PMBTECH301B Use material and process knowledge to solve problems

Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=932aacef-7947-4c80-acc6-593719fe4090

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Assessment Requirements for PMBTECH301 Use material and process knowledge to solve problems

Modification History

Release 1. Supersedes and is equivalent to PMBTECH301B Use material and process knowledge to solve problems

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 procedures, job specifications, instruments/control panels, material labels and safety data sheets (SDS)
- recognise actual and potential process and product problems in which materials properties and/or characteristics may play a role
- analyse actual and potential process and product problems to identify the role of materials properties and/or characteristics
- apply formal problem analysis/solving methods
- distinguish between causes of problems, including:
  - instrument failure/malfunction
  - electrical failure/malfunction
  - mechanical failure/malfunction
  - wrong readings
  - equipment design deficiencies
  - wrong raw materials/additives or wrong grade
  - incorrect quantity of materials/additives
  - contaminated materials/additives
  - out-of-specification materials
  - process set-up and/or operation process variables
- apply a theoretical understanding of polymers to determine corrective action
- implement corrective action within area of responsibility or make recommendation according to procedures
- communicate effectively with team/work group and supervisors
- complete workplace records
- do basic arithmetical manipulations, including additions, subtractions, divisions, fractions and percentages.

Knowledge Evidence

Must provide evidence that demonstrates knowledge relevant to their job sufficient to operate independently and to solve routine and non-routine problems, including knowledge of:

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- types and application of common polymer materials and additives
- structure of common polymers
- commonly accepted diagrammatic representations of polymer molecular shape and arrangement
- polymer properties related to flow, including:
  - molecular weight
  - molecular structure
  - factors effecting viscosity
- polymer properties related to common polymer types and grades
- impact of common impurities on process and product
- the impact of temperature and heating/cooling rate on processing and properties
- characteristics of materials and their behaviour in relation to process conditions and stages of production
- application of problem analysis/solving methods to polymer processing/products
- organisation procedures relevant to the work environment/job role
- hierarchy of control
- hazards that may arise in the job/work environment and:
  - their possible causes
  - potential consequences
  - appropriate risk controls.

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 is best done from a report and/or folio of evidence drawn from:
  - a single project which provides sufficient evidence of the requirements of all the elements and performance criteria
  - multiple smaller projects which together provide sufficient evidence of the requirements of all the elements and performance criteria.
- A third-party report, or similar, may be needed to testify to the work done by the individual, particularly when the project has been done as part of a project team.
- Assessment should use a real project in an operational workplace. Where this is not possible or where personal safety or environmental damage are limiting factors assessment must occur using 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.
- Assessment in a simulated environment should use evidence collected from demonstration of skills and one or more of:
  - walk-throughs
  - pilot plant operation

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  - industry-based case studies/scenarios
  - ‘what ifs’
- Knowledge evidence may be collected concurrently with performance evidence or through an independent process, such as workbooks, written assessments or interviews.
- 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.
- Assessors must satisfy the assessor competency requirements that are in place at the time of the assessment as set by the VET regulator.
- In addition the assessor or anyone acting in subject matter expert role in assessment shall demonstrate both technical competency and currency. If the assessor cannot demonstrate technical competency and currency they shall assess with a subject matter expert who does meet these requirements.
- Technical competence can be demonstrated through one or more of:
  - relevant VET or other qualification/Statement of Attainment
  - appropriate workplace experience undertaking the type of work being assessed under routine and non-routine conditions
  - appropriate workplace experience supervising/evaluating the type of work being assessed under routine and non-routine conditions
- Currency can be demonstrated through one or more of:
  - being currently employed undertaking the type of work being assessed
  - being employed by the organisation undertaking the type of work being assessed and having maintained currency in accordance with that organisation’s policies and procedures
  - having consulted/had contact with an organisation undertaking the type of work being assessed within the last twelve months, the consultation/contact being related to assessment
  - conducting on the job training/assessments of the type of work being assessed
  - being an active member of a relevant professional body and participating in activities relevant to the assessment of this type of work.

Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=932aacef-7947-4c80-acc6-593719fe4090

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PMBTECH401 Predict polymer properties and characteristics

Modification History

Release 1. Supersedes and is equivalent to PMBTECH401B Predict polymer properties and characteristics

Application

This unit of competency covers the skills and knowledge required to predict polymer properties and characteristics as typically used in problem solving and product and process improvement.

This unit of competency applies to technicians or similar roles who are required to predict the impact of process conditions on polymer properties, predict physical properties from polymer morphology, determine the impact of use conditions and polymer characteristics on physical failure, and organise and interpret tests.

This unit of competency applies to an operator/technician applying specialised theoretical and technical knowledge and well developed skills in situations that require autonomy, discretion and judgement. The person may work alone or as a member of a team or group and will work in liaison with other shift team members, team leader and supervisor, as appropriate.

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

Pre-requisite Unit

PMBTECH301 Use material and process knowledge to solve problems

Competency Field

Technical

Unit Sector

Not applicable

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Elements and Performance Criteria

Elements describe the essential outcomes.		Performance criteria describe the performance needed to demonstrate achievement of the element.	
1	**Predict the impact of processing conditions on polymer properties**	1.1	Predict property changes due to molecular weight and temperature
		1.2	Identify the glass transition temperature and melting point relative to ambient temperature
		1.3	Describe the morphological changes occurring to polymers as the temperature is raised to typical moulding conditions
		1.4	Describe the effect of cooling rate on polymer morphology
		1.5	Predict potential product dimension/shape changes due to internal stresses resulting from molecular orientation
		1.6	Determine the affect of post-mould annealing on the degree of crystallisation and crystal
2	**Predict physical properties of polymers from their morphology**	2.1	Predict the effects temperature, crystal size, degree of crystallisation, molecular orientation on physical properties
		2.2	Predict shrinkage from morphology
3	**Determine likely physical failures of polymers**	3.1	Determine impact of physical use conditions on physical failure
		3.2	Determine impact of polymer characteristics on physical failure
4	**Organise and interpret polymer tests**	4.1	Describe melt flow properties from flow data
		4.2	Choose appropriate test type to measure desired criteria
		4.3	Specify relevant standard test method
		4.4	Interpret test result, making allowance for possible variations in test

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Foundation Skills

This section describes those required skills (language, literacy and numeracy) 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.

Applicable legislation, regulations, standards and codes of practice include:

- health, safety and environmental (HSE) legislation, regulations and codes of practice relevant to the workplace, manual handling and hazardous materials
- Australian/international standards relevant to the materials being used and products being made
- any relevant licence and certification requirements.

All operations to which this unit applies are subject to stringent HSE requirements, which may be imposed through state/territory or federal legislation, and these must not be compromised at any time. Where there is an apparent conflict between performance criteria and such requirements the legislative requirements take precedence.

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 any combination of:

- technical specifications
- technical drawings
- emergency procedures
- work instructions

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- 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.

Hazards Hazards must be identified and controlled. Identifying hazards requires consideration of:

- hazardous products and materials
- vapours or other atmospheric hazards
- interaction of polymers, additives and other materials with process variables
- other hazards that might arise.

Unit Mapping Information

Release 1. Supersedes and is equivalent to PMBTECH401B Predict polymer properties and characteristics

Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=932aacef-7947-4c80-acc6-593719fe4090

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Assessment Requirements for PMBTECH401 Predict polymer properties and characteristics

Modification History

Release 1. Supersedes and is equivalent to PMBTECH401B Predict polymer properties and characteristics

Performance Evidence

relevant to and satisfy the requirements of the elements and performance criteria and demonstrate the ability to:

- read and interpret technical reports and specifications, phase diagrams and standard test methods
- predict polymer properties in relation to:
  - polymer morphology
  - polymer phase change
  - processing conditions
- predict the impact of use conditions and polymer characteristics on physical failure of polymers
- organise tests
- record and interpret test results.

Knowledge Evidence

Must provide evidence that demonstrates knowledge relevant to their job sufficient to fulfil their job role, including knowledge of:

- function of equipment and stages of manufacturing process in at least one (1) method/field of polymer manufacturing
- polymer morphology using phase diagrams
- properties of polymers in relation to their morphology
- physical failure in polymers
- polymer materials test methods and property data
- changes in properties and variations in test data
- changes in physical properties due to compounding, processing or environmental conditions
- organisation procedures relevant to the work environment/job role
- hierarchy of control
- hazards that may arise in the job/work environment and:
  - their possible causes
  - potential consequences
  - appropriate risk controls.

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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 is best done from a report and/or folio of evidence drawn from:
  - a single project which provides sufficient evidence of the requirements of all the elements and performance criteria
  - multiple smaller projects which together provide sufficient evidence of the requirements of all the elements and performance criteria.
- A third-party report, or similar, may be needed to testify to the work done by the individual, particularly when the project has been done as part of a project team.
- Assessment should use a real project in an operational workplace. Where this is not possible or where personal safety or environmental damage are limiting factors assessment must occur using 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.
- Assessment in a simulated environment should use evidence collected from demonstration of skills and one or more of:
  - walk-throughs
  - pilot plant operation
  - industry-based case studies/scenarios
  - ‘what ifs’.
- Knowledge evidence may be collected concurrently with performance evidence or through an independent process, such as workbooks, written assessments or interviews.
- 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.
- Assessors must satisfy the assessor competency requirements that are in place at the time of the assessment as set by the VET regulator.
- In addition the assessor or anyone acting in subject matter expert role in assessment shall demonstrate both technical competency and currency. If the assessor cannot demonstrate technical competency and currency they shall assess with a subject matter expert who does meet these requirements.
- Technical competence can be demonstrated through one or more of:
  - relevant VET or other qualification/Statement of Attainment

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  - appropriate workplace experience undertaking the type of work being assessed under routine and non-routine conditions
  - appropriate workplace experience supervising/evaluating the type of work being assessed under routine and non-routine conditions
- Currency can be demonstrated through one or more of:
  - being currently employed undertaking the type of work being assessed
  - being employed by the organisation undertaking the type of work being assessed and having maintained currency in accordance with that organisation's policies and procedures
  - having consulted/had contact with an organisation undertaking the type of work being assessed within the last twelve months, the consultation/contact being related to assessment
  - conducting on the job training/assessments of the type of work being assessed
  - being an active member of a relevant professional body and participating in activities relevant to the assessment of this type of work.

Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=932aacef-7947-4c80-acc6-593719fe4090

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PMBTECH402 Set advanced or complex dies

Modification History

Release 1. Supersedes and is equivalent to PMBTECH402B Set advanced or complex dies

Application

This unit of competency covers the skills and knowledge required to set and remove advanced or complex dies as typically used for injection or blow moulding.

This unit of competency applies to technicians or those in similar roles who are required to plan the die changeover, remove and replace the die, set machine conditions, fine tune settings and production variables to achieve desired results, and rectify production/quality problems.

This unit of competency applies to a technician applying specialised theoretical and technical knowledge and well developed skills in situations that require autonomy, discretion and judgement. The person may work alone or as a member of a team or group and will work in liaison with other shift team members, team leader and supervisor, as appropriate.

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

Pre-requisite Unit

PMBPREP304 Set a die

Competency Field

Technical

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.

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1	**Prepare to change advanced or complex die**	1.1	Determine when changeover will be required, and plan requirements for die change
		1.2	Prepare dies and all equipment related to the advanced or complex die change
		1.3	Prepare the moulding machine for die removal according to enterprise procedures
2	**Change dies**	2.1	Remove die according to enterprise procedures, in a safe, systematic and time efficient manner
		2.2	Clean and store die according to workplace procedures applying corrosion protection if required.
		2.3	Prepare the moulding machine according to procedures
		2.4	Attach replacement die to the machine according to procedures
3	**Set advanced or complex die**	3.1	Set machine conditions for new die
		3.2	Restart machine in accordance with procedure
		3.3	Dry cycle machine and die according to enterprise procedures
		3.4	Check operation of die and power and control devices against die set up specifications.
		3.5	Check the first-off sample for compliance with required standards
		3.6	Fine tune settings and other production variables as required
		3.7	Note any equipment variances between actual production and documented set up conditions
		3.8	Complete workplace documentation and report to appropriate personnel
4	**Anticipate die setting problems**	4.1	Identify potential problems which may occur during the die changing and setting process

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4.2 Determine possible causes of these problems

4.3 Identify most likely causes and prioritise appropriate actions

4.4 Rectify problems using appropriate solutions within area of responsibility

4.5 Recommend improvements in systems or procedures

Foundation Skills

This section describes those required skills (language, literacy and numeracy) 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.

Applicable legislation, regulations, standards and codes of practice include:

- health, safety and environmental (HSE) legislation, regulations and codes of practice relevant to the workplace, manual handling and hazardous materials
- Australian/international standards relevant to the materials being used and products being made
- any relevant licence and certification requirements.

All operations to which this unit applies are subject to stringent HSE requirements, which may be imposed through state/territory or federal legislation, and these must not be compromised at any time. Where there is an apparent conflict between performance criteria and such requirements the legislative requirements take precedence.

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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 any combination of:

- technical specifications
- technical drawings
- 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.

Die A die is a former used to give shape to the product and used under pressure. Dies are typically used in the extrusion, injection, blow moulding and general rubber sectors.

Dies which are not subject to pressure are referred to as 'moulds' in this Training Package.

Advanced die An advanced die is a two or three plate die which has one or more product forming components which:

- move in a direction other than the mould open axis
- are driven by the mould rather than external actuation.

An advanced die will typically feature one or more of:

- sliding blocks or cores actuated by skew pins or cams
- baffled, spiral, tube, and heat pipe cooling systems
- rising cores
- internally actuated unscrewing systems.

Complex die A complex die is either:

- a die which has one or more product forming components that:
- use an external power and control source to actuate product forming

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components
- move in a direction other than the mould open axis
- require sequencing with the mould operation
- a mould which retains molten material within the mould between cycles.

A complex die will typically feature one or more of:

- hot runners
- insulated runners
- externally actuated sliding blocks, cores and unscrewing systems
- safety interlocks.

Tools and equipment

Tools and equipment include:

- dies/tools
- ancillary equipment, including one or more of:
  - hot-runner temperature control
  - hydraulic or pneumatic power supply for actuation of equipment, such as cores or sliding blocks
  - mould temperature control
- hand/power tools used in this process.

Additional tools and equipment will be selected as required from:

- hoists/lifting equipment not requiring any special permits or licences
- manual handling, aids such as hand carts and trolleys
- relevant personal protective equipment (PPE).

Hazards

Hazards must be identified and controlled. Identifying hazards requires consideration of:

- weight, shape, volume of materials to be handled
- hazardous products and materials
- rotational equipment or vibration
- sharp edges, protrusions or obstructions
- slippery surfaces, spills or leaks
- smoke, dust or other atmospheric hazards
- high temperatures
- electricity
- gas
- gases and liquids under pressure
- structural hazards

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- equipment failures
- machinery, equipment and product mass
- other hazards that might arise.

Unit Mapping Information

Release 1. Supersedes and is equivalent to PMBTECH402B Set advanced or complex dies

Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=932aacef-7947-4c80-acc6-593719fe4090

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Assessment Requirements for PMBTECH402 Set advanced or complex dies

Modification History

Release 1. Supersedes and is equivalent to PMBTECH402B Set advanced or complex dies

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 technical and product specifications, instruments/control panels and data
- plan and prepare for die changeover
- remove, clean and store die according to procedures
- place, attach and adjust die to specifications
- make hydraulic, pneumatic and electrical connections as required
- set machine conditions for new die
- monitor key variables, including:
  - alignment and fitting to patens
  - stability during production
  - fine adjustments of die movements to optimise production
  - die temperature control
  - die component stroke
  - clamping force
  - speeds
  - pressure
  - sequencing
  - interlocks
  - machine pressure, sequencing and interlocks
- check the installation and operation of new die to identify conformance and/or non-conformance to specifications
- make adjustments to settings and equipment operation to rectify variations in equipment operation or product quality
- identify hazards and apply relevant hazard controls
- distinguish between causes of problems, such as:
  - operational problems
  - instrument failure/malfunction
  - hydraulic failure/malfunction
  - pneumatic failure/malfunction
  - electrical failure/malfunction

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  - mechanical failure/malfunction
  - wrong readings
  - wrong dies
  - wrongly set die
  - worn or damaged die
  - non-optimum process conditions
  - incorrect material type or poor quality
  - equipment design deficiencies
- resolve non-routine problems
- communicate effectively with team/work group and supervisors

complete workplace records.

Knowledge Evidence

Must provide evidence that demonstrates knowledge relevant to their job sufficient to fulfil their job role, including knowledge of:

- types and features of advanced/complex dies, including
  - sliding blocks or cores actuated by skew pins or cams
  - baffled, spiral, tube, and heat pipe cooling systems
  - rising cores
  - internally actuated unscrewing systems
  - external power and control sources,
  - externally actuated sliding blocks, cores and unscrewing systems
  - safety interlocks
- die setting procedures for advanced/complex dies
- verification procedures for advanced/complex dies
- impact of incorrect or faulty fitting
- settings and adjustments of equipment, machine components and ancillary equipment in fine tuning dies
- routine and non-routine problems that may arise, the range of possible causes and appropriate actions
- organisation procedures relevant to the work environment/job role
- hierarchy of control
- hazards that may arise in the job/work environment and:
  - their possible causes
  - potential consequences
  - appropriate risk controls.

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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 is best done from a report and/or folio of evidence drawn from:
  - a single project which provides sufficient evidence of the requirements of all the elements and performance criteria
  - multiple smaller projects which together provide sufficient evidence of the requirements of all the elements and performance criteria.
- A third-party report, or similar, may be needed to testify to the work done by the individual, particularly when the project has been done as part of a project team.
- Assessment should use a real project in an operational workplace. Where this is not possible or where personal safety or environmental damage are limiting factors assessment must occur using 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.
- Assessment in a simulated environment should use evidence collected from demonstration of skills and one or more of:
  - walk-throughs
  - pilot plant operation
  - industry-based case studies/scenarios
  - ‘what ifs’.
- Knowledge evidence may be collected concurrently with performance evidence or through an independent process, such as workbooks, written assessments or interviews.
- 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.
- Assessors must satisfy the assessor competency requirements that are in place at the time of the assessment as set by the VET regulator.
- In addition the assessor or anyone acting in subject matter expert role in assessment shall demonstrate both technical competency and currency. If the assessor cannot demonstrate technical competency and currency they shall assess with a subject matter expert who does meet these requirements.
- Technical competence can be demonstrated through one or more of:
  - relevant VET or other qualification/Statement of Attainment
  - appropriate workplace experience undertaking the type of work being assessed under routine and non-routine conditions

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  - appropriate workplace experience supervising/evaluating the type of work being assessed under routine and non-routine conditions
- Currency can be demonstrated through one or more of:
  - being currently employed undertaking the type of work being assessed
  - being employed by the organisation undertaking the type of work being assessed and having maintained currency in accordance with that organisation's policies and procedures
  - having consulted/had contact with an organisation undertaking the type of work being assessed within the last twelve months, the consultation/contact being related to assessment
  - conducting on the job training/assessments of the type of work being assessed
  - being an active member of a relevant professional body and participating in activities relevant to the assessment of this type of work.

Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=932aacef-7947-4c80-acc6-593719fe4090

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PMBTECH403 Test fibre-composites materials and laminates

Modification History

Release 1. Supersedes and is equivalent to PMBTECH403B Test fibre-composites materials and laminates

Application

This unit of competency covers the skills and knowledge required to test fibre reinforced plastics materials and laminates. It applies to testing of raw materials and products. Tests are typically done to check conformance with design and quality specifications or to compare specific characteristics of materials/products.

This unit of competency applies to technicians or those in similar roles who are required to determine test specifications, prepare samples, perform tests and make recommendations based on the results.

This unit of competency applies to a technician applying specialised theoretical and technical knowledge and well developed skills in situations that require autonomy, discretion and judgement. The person may work alone or as a member of a team or group and will work in liaison with other shift team members, team leader and supervisor, as appropriate.

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

Pre-requisite Unit

Nil

Competency Field

Technical

Unit Sector

Not applicable

Elements and Performance Criteria

Elements describe the Performance criteria describe the performance needed to

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essential outcomes.		demonstrate achievement of the element.	
1	**Determine test requirements**	1.1	Identify properties to be measured according to specification
		1.2	Select appropriate test methods according to specifications
		1.3	Select appropriate testing equipment according to standards and specifications
2	**Perform raw material tests**	2.1	Prepare samples according to specification
		2.2	Perform tests in accordance with job specifications
		2.3	Record test results according to standard procedures
		2.4	Interpret test results and compare with manufacturer material data sheets
3	**Perform moulded product tests**	3.1	Prepare samples according to specification
		3.2	Perform tests in accordance with job specifications
		3.3	Record test results according to standard procedures
		3.4	Interpret test result and compare against quality specification
4	**Record and report test results**	4.1	Document tests to enterprise requirements
		4.2	Compare results against standards
		4.3	Make written recommendations based on test results

Foundation Skills

This section describes those required skills (language, literacy and numeracy) that are essential to performance.

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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.

Applicable legislation, regulations, standards and codes of practice include:

- health, safety and environmental (HSE) legislation, regulations and codes of practice relevant to the workplace, manual handling and hazardous materials
- Australian/international standards relevant to the materials being used and products being made
- any relevant licence and certification requirements.

All operations to which this unit applies are subject to stringent HSE requirements, which may be imposed through state/territory or federal legislation, and these must not be compromised at any time. Where there is an apparent conflict between performance criteria and such requirements the legislative requirements take precedence.

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 any combination of:

- test procedures
- technical specifications
- technical drawings
- emergency procedures
- work instructions
- standard operating procedures (SOPs)
- safe work method statements (SWMS)
- formulas/recipes
- batch sheets
- temporary instructions

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- any similar instructions provided for the smooth running of the plant.

Tools and equipment

Tools and equipment include:

- testing equipment, including one or more of:
  - gel timer
  - flow meter
  - tensile tester
  - hardness tester
  - mold flow indexer
  - flammability/smoke tester
  - flexular tester.

Additional tools and equipment will be selected as required from:

- equipment specified by AS/NZ standards (where applicable)
- materials handling equipment
- relevant personal protective equipment (PPE).

Hazards

Hazards must be identified and controlled. Identifying hazards requires consideration of:

- hazardous products and materials
- vapours or other atmospheric hazards
- interaction of polymers, additives and other materials
- other hazards that might arise.

Unit Mapping Information

Release 1. Supersedes and is equivalent to PMBTECH403B Test fibre-composites materials and laminates

Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=932aacef-7947-4c80-acc6-593719fe4090

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Assessment Requirements for PMBTECH403 Test fibre-composites materials and laminates

Modification History

Release 1. Supersedes and is equivalent to PMBTECH403B Test fibre-composites materials and laminates

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 technical reports and specifications, material data sheets and standard test methods
- determine test specifications
- prepare samples
- perform tests
- record test results
- interpret results and make recommendations, including one (1) or more of:
  - process control actions
  - raw material suitability
  - product acceptance.

Knowledge Evidence

Must provide evidence that demonstrates knowledge relevant to their job sufficient to fulfil their job role, including knowledge of:

- types of tests, their purposes and functions, including:
  - raw material applications (e.g. resin viscosity, specific gravity of resins and gelcoats, gel time, resin exotherm, monomer content, heat deflection temperature, styrene emission, resin colour, and gelcoat water resistance)
  - laminate applications (e.g. Barcol hardness, tensile strength and elongation, compressive strength, flexural strength and flexural modulus, impact strength, glass content, water absorption, product weathering capabilities, dielectric strength, flammability, acid and alkali resistance, and thickness testing)
  - test applications (e.g. comparing use of common resins and reinforcements in laminates, comparing the tensile strength of given laminates with metals, and comparing test failure modes of laminate samples with metals)
- materials, equipment and process interactions and their impacts on performance
- quality requirements at each stage of production
- product or material test performance indices within standard variation and standard response procedures

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- role of testing in quality control and quality assurance procedures
- relevance of failure mode to fibre reinforced plastic laminate design
- effect of creep and fatigue on laminates
- relationship of laminate thickness to bonding and material properties
- span and deflection
- safe test procedures
- organisation procedures relevant to the work environment/job role
- hierarchy of control
- hazards that may arise in the job/work environment and:
  - their possible causes
  - potential consequences
  - appropriate risk controls.

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 is best done from a report and/or folio of evidence drawn from:
  - a single project which provides sufficient evidence of the requirements of all the elements and performance criteria
  - multiple smaller projects which together provide sufficient evidence of the requirements of all the elements and performance criteria.
- A third-party report, or similar, may be needed to testify to the work done by the individual, particularly when the project has been done as part of a project team.
- Assessment should use a real project in an operational workplace. Where this is not possible or where personal safety or environmental damage are limiting factors assessment must occur using 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.
- Assessment in a simulated environment should use evidence collected from demonstration of skills and one or more of:
  - walk-throughs
  - pilot plant operation
  - industry-based case studies/scenarios
  - ‘what ifs’.
- Knowledge evidence may be collected concurrently with performance evidence or through an independent process, such as workbooks, written assessments or interviews.
- 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.

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- 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.
- Assessors must satisfy the assessor competency requirements that are in place at the time of the assessment as set by the VET regulator.
- In addition the assessor or anyone acting in subject matter expert role in assessment shall demonstrate both technical competency and currency. If the assessor cannot demonstrate technical competency and currency they shall assess with a subject matter expert who does meet these requirements.
- Technical competence can be demonstrated through one or more of:
  - relevant VET or other qualification/Statement of Attainment
  - appropriate workplace experience undertaking the type of work being assessed under routine and non-routine conditions
  - appropriate workplace experience supervising/evaluating the type of work being assessed under routine and non-routine conditions
- Currency can be demonstrated through one or more of:
  - being currently employed undertaking the type of work being assessed
  - being employed by the organisation undertaking the type of work being assessed and having maintained currency in accordance with that organisation's policies and procedures
  - having consulted/had contact with an organisation undertaking the type of work being assessed within the last twelve months, the consultation/contact being related to assessment
  - conducting on the job training/assessments of the type of work being assessed
  - being an active member of a relevant professional body and participating in activities relevant to the assessment of this type of work.

Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=932aacef-7947-4c80-acc6-593719fe4090

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PMBTECH404 Mould chemical resistant and/or fire retardant fibre-composites

Modification History

Release 1. Supersedes and is equivalent to PMBTECH404B Mould chemical resistant and/or fire retardant fibre-composites

Application

This unit of competency covers the skills and knowledge required to laminate or lay-up special-purpose chemical resistant/fire retardant composite products. It applies to the making of a resistant/retardant laminate in a factory environment on a mould or the laying up of a composite surface on a substrate, such as a tank surface.

This competency applies to advanced operators, technicians or those in similar roles who are required to confirm the product specifications, decide on suitable materials and processes to meet specifications, and solve process and materials and problems.

This unit of competency applies to a person applying specialised theoretical and technical knowledge and well developed skills in situations that require autonomy, discretion and judgement. The person may work alone or as a member of a team or group and will work in liaison with other shift team members, team leader and supervisor, as appropriate.

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

Pre-requisite Unit

Nil

Competency Field

Technical

Unit Sector

Not applicable

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Elements and Performance Criteria

Elements describe the essential outcomes.		Performance criteria describe the performance needed to demonstrate achievement of the element.	
1	**Confirm product specifications**	1.1	Confirm the conditions of use of the desired composite product
		1.2	Confirm the required specification of the desired composite product
		1.3	Determine any other special requirements of the desired composite product
		1.4	Obtain client sign-off of specification/requirements
2	**Select appropriate materials/process to produce the desired composite product**	2.1	Identify the laminate properties suitable for the job
		2.2	Select the appropriate resin, matrix and other materials
		2.3	Select the process to be used to make product
		2.4	Implement measures to control identified hazards in line with procedures and duty of care
		2.5	Make trial samples where required and test or arrange testing of samples as required
		2.6	Check suitability of combination of materials and process to meet all end use requirement
		2.7	Complete pre-start checks
3	**Lay up or mould the laminate**	3.1	Prepare and apply mould release to the mould surface if required
		3.2	Clean and prepare structure surface for adhesion if required
		3.3	Apply laminate materials to the mould or to the structure as required
		3.4	Inspect/test the laminate surface as required
		3.5	Make adjustments to remedy faults and nonconformity as required

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		3.6	Adjust process to minimise scrap and waste
		3.7	Clean, adjust and lubricate equipment as required
4	**Anticipate and solve problems**	4.1	Recognise a problem or a potential problem
		4.2	Determine problems needing priority action
		4.3	Determine possible fault causes
		4.4	Solve problems within area of responsibility
		4.5	Refer problems outside area of responsibility to designated person, with possible causes
		4.6	Follow through items initiated until final resolution has occurred

Foundation Skills

This section describes those required skills (language, literacy and numeracy) 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.

Applicable legislation, regulations, standards and codes of practice include:

- health, safety and environmental (HSE) legislation, regulations and codes of practice relevant to the workplace, manual handling, hazardous materials and product specifications
- Australian/international standards relevant to the materials being used and

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products being made
- any relevant licence and certification requirements.

All operations to which this unit applies are subject to stringent HSE requirements, which may be imposed through state/territory or federal legislation, and these must not be compromised at any time. Where there is an apparent conflict between performance criteria and such requirements the legislative requirements take precedence.

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 any combination of:

- test procedures
- technical specifications
- technical drawings
- 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:

- moulds
- hand mixing tools, such as stirrers
- knives and cutters to trim fibres
- hand application tools, such as rollers, trowels and brushes
- relevant personal protective equipment (PPE).

Hazards

Hazards must be identified and controlled. Identifying hazards requires consideration of:

- working at heights
- working in confined spaces
- weight, shape, volume of materials to be handled
- hazardous products and materials

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- rotational equipment or vibration
- sharp edges, protrusions or obstructions
- slippery surfaces, spills or leaks
- smoke, dust or other atmospheric hazards
- high temperatures
- electricity
- gas
- gases and liquids under pressure
- structural hazards
- equipment failures
- machinery, equipment and product mass
- other hazards that might arise.

Unit Mapping Information

Release 1. Supersedes and is equivalent to PMBTECH404B Mould chemical resistant and/or fire retardant fibre-composites

Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=932aacef-7947-4c80-acc6-593719fe4090

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Assessment Requirements for PMBTECH404 Mould chemical resistant and/or fire retardant fibre-composites

Modification History

Release 1. Supersedes and is equivalent to PMBTECH404B Mould chemical resistant and/or fire retardant fibre-composites

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 technical information, product specifications, material labels and safety data sheets (SDS)
- interpret corrosion resistance and fire retardance data/tables
- confirm specifications and special requirements with client
- determine materials and process that will meet product specifications and special requirements
- confirm suitability of combination of materials and process to meet requirements
- prepare for and apply laminate materials to the mould/structure
- monitor key variables, including:
  - surface finish
  - colour
  - thickness
  - product integrity and general conformance to specifications
- apply technical knowledge to recognise, anticipate and rectify quality, materials and process problems within area of responsibility
- make adjustments to remedy faults and nonconformity
- identify hazards and apply relevant hazard controls
- communicate effectively with team/work group and supervisors
- complete workplace records.

Knowledge Evidence

Must provide evidence that demonstrates knowledge relevant to their job sufficient to fulfil their job role, including knowledge of:

- types of materials, techniques and equipment used in construction of:
  - chemical resistant laminates
  - fire retardant laminates
  - wet area applications

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- application of special purpose products across sectors and impact on product/process/materials requirements
- factors which may affect product quality or production output and appropriate remedies
- characteristics of materials and their behaviour in relation to process conditions and stages of production
- critical materials properties and process variables in relation to the process requirements and the end product
- materials properties and production processes for special-purpose products, including:
  - waterproofing
  - alkali and acid resistance
  - heat resistance
  - fire retardancy
  - smoke generation
  - abrasion resistance
  - cold weather performance and curing
- material and equipment conditions which may lead to out-of-specification production
- impact of variations in raw materials and equipment operation in relation to final product
- changes to materials at various stages of production
- quality requirements at each production stage
- routine and non-routine problems that may arise, the range of possible causes and appropriate actions
- organisation procedures relevant to the work environment/job role
- hierarchy of control
- hazards that may arise in the job/work environment and:
  - their possible causes
  - potential consequences
  - appropriate risk controls.

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 is best done from a report and/or folio of evidence drawn from:
  - a single project which provides sufficient evidence of the requirements of all the elements and performance criteria
  - multiple smaller projects which together provide sufficient evidence of the requirements of all the elements and performance criteria.
- A third-party report, or similar, may be needed to testify to the work done by the individual, particularly when the project has been done as part of a project team.

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- Assessment should use a real project in an operational workplace. Where this is not possible or where personal safety or environmental damage are limiting factors assessment must occur using 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.
- Assessment in a simulated environment should use evidence collected from demonstration of skills and one or more of:
  - walk-throughs
  - pilot plant operation
  - industry-based case studies/scenarios
  - ‘what ifs’.
- Knowledge evidence may be collected concurrently with performance evidence or through an independent process, such as workbooks, written assessments or interviews.
- 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.
- Assessors must satisfy the assessor competency requirements that are in place at the time of the assessment as set by the VET regulator.
- In addition the assessor or anyone acting in subject matter expert role in assessment shall demonstrate both technical competency and currency. If the assessor cannot demonstrate technical competency and currency they shall assess with a subject matter expert who does meet these requirements.
- Technical competence can be demonstrated through one or more of:
  - relevant VET or other qualification/Statement of Attainment
  - appropriate workplace experience undertaking the type of work being assessed under routine and non-routine conditions
  - appropriate workplace experience supervising/evaluating the type of work being assessed under routine and non-routine conditions
- Currency can be demonstrated through one or more of:
  - being currently employed undertaking the type of work being assessed
  - being employed by the organisation undertaking the type of work being assessed and having maintained currency in accordance with that organisation’s policies and procedures
  - having consulted/had contact with an organisation undertaking the type of work being assessed within the last twelve months, the consultation/contact being related to assessment
  - conducting on the job training/assessments of the type of work being assessed

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- being an active member of a relevant professional body and participating in activities relevant to the assessment of this type of work.

Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=932aacef-7947-4c80-acc6-593719fe4090

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PMBTECH405 Repair damaged fibre-composites structures

Modification History

Release 1. Supersedes and is equivalent to PMBTECH405B Repair damaged fibre-composites structures

Application

This unit of competency covers the skills and knowledge required to repair composite products with cosmetic or structural damage.

This unit of competency applies to advanced operators, technicians or those in similar roles who are required to identify, diagnose, and make repairs to products and solve process and materials and problems.

This unit of competency applies to a person applying specialised theoretical and technical knowledge and well developed skills in situations that require autonomy, discretion and judgement. The person may work alone or as a member of a team or group and will work in liaison with other shift team members, team leader and supervisor, as appropriate.

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

Pre-requisite Unit

PMBPROD247 Hand lay up composites

Competency Field

Technical

Unit Sector

Not applicable

Elements and Performance Criteria

Elements describe the Performance criteria describe the performance needed to

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essential outcomes.		demonstrate achievement of the element.	
1	**Assess the product and damage**	1.1	Determine scope of repair required, such as either to original manufacturer specifications or other needs
		1.2	Select appropriate repair technique
		1.3	Consult testing reports giving recommended areas to be repaired and extent of damage if available
2	**Make repairs**	2.1	Examine the accessibility of the damaged section(s)
		2.2	Identify cosmetic repair areas and structural repair areas
		2.3	Consult original manufacturer's manual or structural repairs manual where available
		2.4	Consult product release documentation and insurance company requirements if available
		2.5	Prepare and clean up the product prior to commencing the actual repair
		2.6	Make partial mould or prepare insert moulding as required for the type of repair
		2.7	Expose bonding surfaces, and/or structural anchor points, using tapered sanding techniques as determined
		2.8	Rebuild the damaged area and finish surfaces to required standard
		2.9	Take samples for testing and inclusion with documentation as required
3	**Document the repair**	3.1	Raise repair documentation for costing, legal and insurance requirements as required
		3.2	Complete other documentation and records required

Foundation Skills

This section describes those required skills (language, literacy and numeracy) that are essential to performance.

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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.

Applicable legislation, regulations, standards and codes of practice include:

- health, safety and environmental (HSE) legislation, regulations and codes of practice relevant to the workplace, manual handling, hazardous materials
- Australian/international standards relevant to the materials being used and products being made
- any relevant licence and certification requirements.

All operations to which this unit applies are subject to stringent HSE requirements, which may be imposed through state/territory or federal legislation, and these must not be compromised at any time. Where there is an apparent conflict between performance criteria and such requirements the legislative requirements take precedence.

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 any combination of:

- manufacturer supplied structural repair manuals
- release documentation, legal and insurance procedures for fibre reinforced plastic
- technical specifications
- technical drawings
- emergency procedures
- work instructions
- standard operating procedures (SOPs)
- safe work method statements (SWMS)

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- formulas/recipes
- batch sheets
- temporary instructions
- any similar instructions provided for the smooth running of the plant.

Tools and equipment

Tools and equipment include:

- hand tools used in the process
- hoists/lifting equipment not requiring any special permits or licences
- manual handling aids, such as hand carts and trolleys
- relevant personal protective equipment (PPE).

Hazards

Hazards must be identified and controlled. Identifying hazards requires consideration of:

- fumes/vapours
- weight, shape, volume of materials to be handled
- hazardous products and materials
- rotational equipment or vibration
- sharp edges, protrusions or obstructions
- slippery surfaces, spills or leaks
- smoke, dust or other atmospheric hazards
- high temperatures
- electricity
- gas
- gases and liquids under pressure
- structural hazards
- equipment failures
- machinery, equipment and product mass
- other hazards that might arise.

Unit Mapping Information

Release 1. Supersedes and is equivalent to PMBTECH405B Repair damaged fibre-composites structures

Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=932aacef-7947-4c80-acc6-593719fe4090

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Assessment Requirements for PMBTECH405 Repair damaged fibre-composites structures

Modification History

Release 1. Supersedes and is equivalent to PMBTECH405B Repair damaged fibre-composites structures

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 insurance documentation, technical information, product specifications, material labels and safety data sheets (SDS)
- assess product damage, accessibility repair options and costs
- determine materials and process that will meet repair requirements, including:
  - cosmetic damage
  - structural damage
- confirm suitability of combination of materials and process to meet requirements
- prepare for and make repairs
- apply technical knowledge to recognise, anticipate and rectify quality, materials and process problems within area of responsibility
- make adjustments to remedy faults and non-conformity
- identify hazards and apply relevant hazard controls
- communicate effectively with team/work group and supervisors
- take samples
- complete workplace records.

Knowledge Evidence

Must provide evidence that demonstrates knowledge relevant to their job sufficient to fulfil their job role, including knowledge of:

- repair techniques, including:
  - surface and part preparation
  - laminating, reinforcing and strengthening techniques
  - filling and joining techniques
  - surface preparation for paint, gelcoat and flowcoat
  - detailing for customer delivery
- rectification procedures for repair of marine, automotive, aerospace, industrial and architectural mouldings
- factors which may affect product quality or production output and appropriate remedies

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- characteristics of materials and their behaviour in relation to process conditions and stages of production
- critical materials properties and process variables in relation to the process requirements and the end product
- material and equipment conditions which may lead to ou-of-specification production
- impact of variations in raw materials and equipment operation in relation to final product
- changes to materials at various stages of production
- quality requirements at each production stage
- routine and non-routine problems that may arise, the range of possible causes and appropriate actions
- organisation procedures relevant to the work environment/job role
- hierarchy of control
- hazards that may arise in the job/work environment and:
  - their possible causes
  - potential consequences
  - appropriate risk controls.

Assessment Conditions

- The unit should be assessed holistically and the judgement of competence shall be based on a holistic assessment of the evidence.
- In all plants it may be appropriate to assess this unit concurrently with units such as:
  - teamwork
  - communication
- Where the assessee does not currently possess evidence of competency in *PMBPROD247 Hand lay up composites*, it may be co-assessed with this unit.
- The collection of performance evidence:
  - should occur over a range of situations which include typical disruptions to normal, smooth operation of an operating plant
  - will typically include a supervisor/third-party report or other evidence, 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 an appropriate industrial item of equipment requiring demonstration of operation, start and stop procedures 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 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.

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- Assessment in a simulated environment should use evidence collected from demonstration of skills and one or more of:
  - walk-throughs
  - pilot plant operation
  - industry-based case studies/scenarios
  - 'what ifs'.
- Knowledge evidence may be collected concurrently with performance evidence or through an independent process, such as workbooks, written assessments or interviews.
- 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.
- Assessors must satisfy the assessor competency requirements that are in place at the time of the assessment as set by the VET regulator.
- In addition the assessor or anyone acting in subject matter expert role in assessment shall demonstrate both technical competency and currency. If the assessor cannot demonstrate technical competency and currency they shall assess with a subject matter expert who does meet these requirements.
- Technical competence can be demonstrated through one or more of:
  - relevant VET or other qualification/Statement of Attainment
  - appropriate workplace experience undertaking the type of work being assessed under routine and non-routine conditions
  - appropriate workplace experience supervising/evaluating the type of work being assessed under routine and non-routine conditions
- Currency can be demonstrated through one or more of:
  - being currently employed undertaking the type of work being assessed
  - being employed by the organisation undertaking the type of work being assessed and having maintained currency in accordance with that organisation's policies and procedures
  - having consulted/had contact with an organisation undertaking the type of work being assessed within the last twelve months, the consultation/contact being related to assessment
  - conducting on the job training/assessments of the type of work being assessed
  - being an active member of a relevant professional body and participating in activities relevant to the assessment of this type of work.

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Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=932aacef-7947-4c80-acc6-593719fe4090

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PMBTECH406 Diagnose production equipment problems

Modification History

Release 1. Supersedes and is equivalent to PMBTECH406A Diagnose production equipment problems

Application

This unit of competency covers the skills and knowledge required to diagnose production equipment problems. It applies to product faults, including reject products and other faults, and production faults/problems.

This unit of competency applies to advanced operators, technicians or those in similar roles who are required to determine the possible causes of product/production faults; investigate the likely equipment, plant and/or process causes of the faults; isolate the most probable cause; recommend the solution and monitor its implementation.

This unit of competency applies to an operator/technician applying specialised theoretical and technical knowledge and well developed skills in situations that require autonomy, discretion and judgement. The operator/technician will take the lead role in the activity but will need to liaise with a range of people at all levels in the organisation to obtain information and to implement the solution. The operator/technician will have detailed operational and process knowledge but is not required to demonstrate 'hands on' operation of equipment as part of this competency.

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

Pre-requisite Unit

Nil

Competency Field

Technical

Unit Sector

Not applicable

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Elements and Performance Criteria

Elements describe the essential outcomes.		Performance criteria describe the performance needed to demonstrate achievement of the element.	
1	**Identify faults in products/production**	1.1	Examine products/production process
		1.2	Identify faults
		1.3	Categorise faults according to type/likely cause
		1.4	Prioritise faults for action
2	**Determine most probable possible cause(s) of fault**	2.1	Analyse fault to determine possible causes
		2.2	Investigate possible causes to eliminate less probable causes
		2.3	Short list probable causes
		2.4	Check hypothesis of cause(s) is supported by the data available
		2.5	Identify most probable cause
3	**Implement solution to fault**	3.1	Develop recommended solution to fault
		3.2	Check health, safety and environment (HSE) implications of solution and modify solution as appropriate
		3.3	Communicate the recommendation as appropriate
		3.4	Check recommendation has been understood and can be implemented
		3.5	Check all hazard controls are in place
		3.6	Monitor progress of implementation
		3.7	Modify recommended solution as required
4	**Check fault**	4.1	Monitor product/process for fault

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solution has worked	4.2	Monitor HSE impacts of changes
	4.3	Repeat analysis and solution process if required
	4.4	Update records and procedures to reflect successful solution

Foundation Skills

This section describes those required skills (language, literacy and numeracy) 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.

Applicable legislation, regulations, standards and codes of practice include:

- HSE legislation, regulations and codes of practice relevant to the workplace, manual handling, hazardous materials
- Australian/international standards relevant to the materials being used and products being made
- any relevant licence and certification requirements.

All operations to which this unit applies are subject to stringent HSE requirements, which may be imposed through state/territory or federal legislation, and these must not be compromised at any time. Where there is an apparent conflict between performance criteria and such requirements the legislative requirements take precedence.

Procedures

All operations must be performed in accordance with relevant procedures.

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Procedures are written, verbal, visual, computer-based or in some other form, and include one or any combination of:

- technical specifications
- technical drawings
- test procedures
- 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.

Hazards Hazards must be identified and controlled. Identifying hazards requires consideration of:

- hazardous products and materials
- vapours or other atmospheric hazards
- interaction of polymers, additives and other materials
- sharp edges, protrusions or obstructions
- slippery surfaces, spills or leaks
- structural hazards
- equipment failures
- machinery, equipment and product mass
- other hazards that might arise.

Unit Mapping Information

Release 1. Supersedes and is equivalent to PMBTECH406A Diagnose production equipment problems

Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=932aacef-7947-4c80-acc6-593719fe4090

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Assessment Requirements for PMBTECH406 Diagnose production equipment problems

Modification History

Release 1. Supersedes and is equivalent to PMBTECH406A Diagnose production equipment problems

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 test results, technical information, product specifications, instruments/control panels, material labels and safety data sheets (SDS)
- examine products/process to identify faults via one (1) or more of:
  - visual examination
  - examination of product quality or other records
  - examination of inspection records
  - examination of test results
  - specific examination testing undertaken as part of a product improvement activity
- analyse the faults to identify all feasible causes of the problem
- investigate possible causes to short list probable causes including one (1) or more of:
  - talking with operators and others
  - checking machine histories for prevailing process conditions
  - checking current process/equipment conditions
  - carrying out small tests to determine the likelihood of a causal link between a condition and a fault
- confirm most probable cause based on available data
- develop and communicate solution to the fault which meets safety requirements
- monitor implementation of the solution and review and make adjustments as required
- communicate effectively with team/work group and supervisors
- complete workplace records
- document updates to procedures
- write equipment/process condition specifications.

Knowledge Evidence

Must provide evidence that demonstrates knowledge relevant to their job sufficient to fulfil their job role including knowledge of:

- how the process/equipment works

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- characteristics of materials and their behaviour in relation to process conditions and stages of production
- impact of variations process conditions on the product
- impacts of equipment failure/change/variation on the product
- changes to materials at various stages of production
- quality/inspection/testing regime and relationship of results of to process conditions and equipment faults
- types of product faults, including variations in:
  - colour
  - surface finish
  - size/shape
  - physical properties
  - chemical properties
  - biological/biochemical/microbiological properties
- types of process/equipment condition problems, including:
  - settings, such as temperature and pressure
  - rates, such as feed rate and flow rate
  - setting and adjustment of equipment parts
  - worn and broken equipment parts
- product faults that can be caused by process/equipment problems and possible solutions
- organisation procedures relevant to the work environment/job role
- hierarchy of control
- hazards that may arise in the job/work environment and:
  - their possible causes
  - potential consequences
  - appropriate risk controls.

Assessment Conditions

- The unit should be assessed holistically and the judgement of competence shall be based on a holistic assessment of the evidence.
- The diagnosis and solving of a number of faults with different types of causes is required, including:
  - product defect with process condition cause
  - product defect with equipment problem cause
  - process fault/problem with process condition or equipment cause.
- The collection of performance evidence is best done from a report and/or folio of evidence drawn from:
  - a single project which provides sufficient evidence of the requirements of all the elements and performance criteria
  - multiple smaller projects which together provide sufficient evidence of the requirements of all the elements and performance criteria.

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- A third-party report, or similar, may be needed to testify to the work done by the individual, particularly when the project has been done as part of a project team.
- Assessment should use a real project in an operational workplace. Where this is not possible or where personal safety or environmental damage are limiting factors assessment must occur using 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.
- Assessment in a simulated environment should use evidence collected from demonstration of skills and one or more of:
  - walk-throughs
  - pilot plant operation
  - industry-based case studies/scenarios
  - ‘what ifs’.
- Knowledge evidence may be collected concurrently with performance evidence or through an independent process, such as workbooks, written assessments or interviews.
- 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.
- Assessors must satisfy the assessor competency requirements that are in place at the time of the assessment as set by the VET regulator.
- In addition the assessor or anyone acting in subject matter expert role in assessment shall demonstrate both technical competency and currency. If the assessor cannot demonstrate technical competency and currency they shall assess with a subject matter expert who does meet these requirements.
- Technical competence can be demonstrated through one or more of:
  - relevant VET or other qualification/Statement of Attainment
  - appropriate workplace experience undertaking the type of work being assessed under routine and non-routine conditions
  - appropriate workplace experience supervising/evaluating the type of work being assessed under routine and non-routine conditions
- Currency can be demonstrated through one or more of:
  - being currently employed undertaking the type of work being assessed
  - being employed by the organisation undertaking the type of work being assessed and having maintained currency in accordance with that organisation’s policies and procedures

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- having consulted/had contact with an organisation undertaking the type of work being assessed within the last twelve months, the consultation/contact being related to assessment
- conducting on the job training/assessments of the type of work being assessed
- being an active member of a relevant professional body and participating in activities relevant to the assessment of this type of work.

Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=932aacef-7947-4c80-acc6-593719fe4090

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PSPGEN029 Value diversity

Modification History

Release	Comments
1	This unit was released in PSP Public Sector Training Package release 1.0 and meets the Standards for Training Packages. This unit supersedes and is equivalent to PSPGOV408A Value diversity. • Unit code updated • Content and formatting updated to comply with the new standards • All PC transitioned from passive to active voice

Application

This unit describes the skills required to value diversity in the workplace. It includes promoting the benefits of diversity and contributing to diversity outcomes.

This unit applies to those working in public sector roles but may be applied to anyone working in a similar organisational context.

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 be working independently, possibly supervising others, performing complex tasks in a range of familiar contexts.

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

Competency Field

General

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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. Promote the benefits of diversity	1.1 Analyse the diversity of the workgroup to identify the strengths and differences that benefit both staff and the organisation. 1.2 Explain workplace diversity issues, benefits and risks to others, using language and supporting material suitable to their needs and the situations they are likely to experience. 1.3 Identify and promote diversity training and awareness programs 1.4 Use opportunities for leadership in, and advocacy of workplace diversity.
2. Contribute to diversity outcomes	2.1 Maintain knowledge of diversity principles and practices that apply to the workplace. 2.2 Assist others to ensure work practices contribute to diversity benefits. 2.3 Develop a range of communication styles suitable for the workplace and its clients. 2.4 Provide managers with feedback on diversity policies, strategies and practices/services.

Foundation Skills

The foundation skills demands of this unit have been mapped for alignment with the Australian Core Skills Framework (ACSF). The following tables outline the performance levels indicated for successful attainment of the unit.

ACSF levels indicative of performance :

1	2	**3**	4	5	1	2	3	**4**	5	1	2	3	**4**	5	1	2	3	**4**	5	1	2	3	4	5
Learning					Reading					Writing					Oral communication					Numeracy NA					

Performance variables

1	2	3	**4**	5	1	2	**3**	4	5	1	2	**3**	4	5	1	2	3	**4**	5
Support					Context					Text complexity					Task complexity				

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Further information on ACSF and the foundation skills underpinning this unit can be found in the Foundation Skills Guide on the GSA website.

Unit Mapping Information

This unit supersedes and is equivalent to PSPGOV408A Value diversity.

Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=bebbece7-ff48-4d2c-8876-405679019623

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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Assessment Requirements for PSPGEN029 Value diversity

Modification History

Release	Comments
1	These Assessment Requirements were released in PSP Public Sector Training Package release 1.0 and meet the Standards for Training Packages. • 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.

- using communication styles to suit different audiences and purposes
- communicating with people from diverse backgrounds
- identifying racist behaviours
- explaining complex and formal documents, including legislation and codes of conduct, and applying them to work practices
- demonstrating a clear commitment to the principles and practices of workplace diversity

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.

- aspects of cultural diversity, including issues of racism, discrimination, harassment and victimisation
- direct versus indirect discrimination
- definitions of diversity
- benefits of workplace diversity
- principles and practices of cultural awareness
- avoidance of gender bias in language
- productive diversity principles including flexibility, multiplicity, devolution, negotiation and pluralism
- institutional racism and resulting indirect discrimination
- jurisdictional legislation and standards that underpin or impact on workplace diversity

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- public sector policies, practices and procedures related to diversity, including those related to the provision of language services

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

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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PSPHRM004 Implement workforce planning and succession strategies

Modification History

Release	Comments
1	This unit was released in PSP Public Sector Training Package release 1.0 and meets the Standards for Training Packages. This unit supersedes and is equivalent to PSPHR504A Implement workforce planning and succession strategies. • 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 provide workforce planning and succession strategies to underpin the organisation's strategic and business decisions.

This unit applies to those working within a human resources administration role.

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 independently, performing complex tasks in a range of familiar contexts.

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

Competency Field

Human resource management

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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. Conduct workforce analysis	1.1 Conduct in-depth analysis of current workforce practices, numbers, deployment, diversity and competencies to provide a baseline for workforce planning and management. 1.2 Analyse workforce data and benchmark when required against comparable data, identify trends and suggest interventions to address developments that do not support the organisation's strategic or business directions. 1.3 Undertake labour market and industry analysis to identify factors and trends that may impact on the organisation and the implications of these for workforce planning and management. 1.4 Use scenario planning or other forecasting tools to predict and assess likely futures for the organisation with their associated implications and risks. 1.5 Present the results of workforce analysis in objective and unbiased terms and in a form and language to suit the intended audience. 1.6 Ensure that the results of workforce analysis concerning future workforce requirements are included in decision-making processes.
2. Contribute to workforce planning	2.1 Provide information and advice to managers on all aspects of workforce planning. 2.2 Develop and/or provide workforce planning tools to managers, and give assistance in their use. 2.3 Develop and suggest solutions for current and future workforce planning and management issues. 2.4 Provide consultancy services to develop the human resource aspects of organisational and business unit plans to ensure the right numbers of appropriately diverse and skilled staff are available for future needs. 2.5 Assist managers to question current work practices and structures and prepare workforce plans.
3. Assist with succession management	3.1 Communicate the critical role of succession planning in managing the organisation's intellectual capital to managers and staff. 3.2 Develop a succession management strategy and identify candidate pools for imminent and longer term future vacancies. 3.3 Develop and agree on succession processes and the succession

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	management strategy. 3.4 Use the results of workforce analysis and planning to assist managers to undertake succession planning.

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 PSPHR504A Implement workforce planning and succession strategies.

Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=bebbece7-ff48-4d2c-8876-405679019623

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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Assessment Requirements for PSPHRM004 Implement workforce planning and succession strategies

Modification History

Release	Comments
1	These Assessment Requirements were released in PSP Public Sector Training Package release 1.0 and meet the Standards for Training Packages. • 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.

- analysing information and trends
- consulting, negotiating and advising on workforce planning and succession management
- leading and influencing in relation to workforce analysis and planning
- applying problem solving
- explaining ideas to different audiences
- interpreting and explaining data and assisting others to apply the outcomes in the workplace
- preparing written advice and reports requiring reasoning and precision of expression

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.

- data analysis
- forecasting and planning
- scenario planning
- strategic thinking and analysis
- organisational business planning cycle and processes
- organisational goals, policies and procedures related to workforce planning and analysis
- standard and content requirements of workforce analysis and planning reports

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- jurisdictional legislation applying to human resources, including freedom of information, privacy, confidentiality, occupational health and safety, and environment and sustainability practices

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

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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RIIMPO304E Conduct wheel loader 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 and shift loads using wheel loader 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.

Unit Sector

Coal mining

Extractive

Metalliferous mining

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. Plan and prepare for wheel loader operations	1.1 Access, interpret and apply wheel loader 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 activities 1.5 Access, interpret and apply geological and survey data required to

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ELEMENT	PERFORMANCE CRITERIA
Elements describe the essential outcomes.	*Performance criteria describe the performance needed to demonstrate achievement of the element.*
	complete the work activity 1.6 Inspect and prepare work area in coordination with others in line with workplace procedures 1.7 Select required loader equipment and confirm suitability for work activities 1.8 Obtain and interpret emergency procedures for loaders, and be prepared for fires, accidents and emergencies 1.9 Coordinate and communicate planned activities with others at the site prior to commencement of work activity
2. Operate the wheel loader 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 loader using techniques suited to equipment capabilities, site and work conditions, and according to workplace environments 2.4 Monitor and manage equipment performance using indicators and alarms in line with manufacturers' specifications 2.5 Monitor hazards and risks during operations, and ensure safety of self, other personnel, plant and equipment 2.6 Park up, shut down, secure and carry out post operational inspection of equipment in line with workplace procedures
3. Conduct housekeeping activities	3.1 Clear work area and dispose or recycle materials according to workplace procedures 3.2 Manage and/or report hazards, and maintain a safe working environment 3.3 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.

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Skill	Description
Reading	• Identifies and interprets information from workplace procedures, documentation, legislation and regulations
Numeracy	• 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
RIIMPO304E Conduct wheel loader operations (Release 1)	RIIMPO304D Conduct wheel loader operations (Release 5)	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

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Assessment Requirements for RIIMPO304E Conduct wheel loader 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 wheel 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 wheel loader for operations and adjusting techniques to suit site conditions
- shifting loads, carries the load as close to the ground as possible and deposits load to the correct location
- parking and securing the 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
- conduct loading and unloading
- manage changes in the loads centre of gravity during transportation
- select and use the required tools and equipment according to original equipment manufacturer manual
- monitor and manage equipment performance using indicators and alarms
- identify common equipment faults
- inspect and prepare work area

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- 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
-

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 wheel loader operation without attachments, including those relating to:

- work health and safety, including signs of operator fatigue and how it should be managed identifying
- operational, maintenance and basic diagnostics
- housekeeping activities
- personal protective equipment
- maintenance and basic diagnostics
- fire, accident and emergency

Key factors affecting work activities described in performance evidence above, including:

- equipment processes, technical capability and limitations
- geological and technical data
- loading techniques
- plans, reports, maps, specifications

Assessment Conditions

Mandatory conditions for assessment of this unit are stipulated below. The assessment must:

- include access to:
  - wheel 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

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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

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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

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SIRRMER003 Coordinate visual merchandising activities

Modification History

Not applicable.

Application

This unit describes the performance outcomes, skills and knowledge required to coordinate store visual merchandising activities and ensure adherence to organisational standards, policies and procedures for the display of merchandise.

It applies to individuals working in frontline roles in a diverse range of retail industry sectors and business contexts that display retail products for sale. 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

Merchandising

Unit Sector

Retail

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. Coordinate visual merchandise requirements.	1.1. Access and interpret organisational visual merchandising guidelines, and policies and procedures. 1.2. Communicate visual merchandising standards and display

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	requirements to team members. 1.3. Plan appropriate timing for producing and dismantling visual merchandise displays. 1.4. Communicate roles and responsibilities for visual merchandising to team members. 1.5. Plan and coordinate promotional and special event displays as directed by management.
2. Supervise visual merchandise activities.	2.1. Supervise construction and maintenance of displays to achieve balance and visual impact. 2.2. Ensure display information accurately depicts product or service being promoted. 2.3. Ensure displays are completed with minimum disruption to customer service and traffic flow. 2.4. Ensure displays meet organisational standards and visual merchandise guidelines. 2.5. Regularly monitor replenishment of merchandise and rotation of stock and take action to ensure optimal stock levels as required.
3. Review impact of visual merchandise activities.	3.1. Evaluate promotions or special event displays and determine impact on sales results. 3.2. Report on visual merchandising activities to relevant personnel and make suggestions for improvements as required.

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
Problem solving skills to:	• overcome difficulties relevant to the display of merchandise.

Unit Mapping Information

No equivalent unit.

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Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=ca051b1b-5101-4ec2-ac1c-49699303188d

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Assessment Requirements for SIRRMER003 Coordinate visual merchandising activities

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 merchandising display guidelines, and organisational policies and procedures to coordinate visual merchandise activities for two of the following:
  - an existing merchandise range
  - a new merchandise range
  - a seasonal merchandise range
  - a promotional event
  - discounted merchandise
- for each of the above visual merchandising activities:
  - communicate requirements with team members
  - monitor visual merchandising displays and standards
- report on the effectiveness of the above merchandising activities.

Knowledge Evidence

Demonstrated knowledge required to complete the tasks outlined in elements and performance criteria of this unit:

- organisational policies and procedures for:
  - merchandise labelling and pricing
  - required stock levels
  - merchandise rotation and replenishment
- organisational visual merchandise standards and guidelines and their application to visual merchandising activities
- key aspects of relevant industry codes of practice, legislation and statutory requirements for coordinating merchandise presentation:
  - Australian Consumer Law
  - Work Health and Safety (WHS)
- objectives and use of visual merchandise displays
- interpretation of scaled versions of store design, layout and fixture placements
- techniques for creating effective visual merchandise displays:
  - types of displays and their impact

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    - display location
    - display lighting
    - display signage
- fundamental elements and principles of visual design and their use in the display and merchandise of products
- commercial impact of incorrect pricing both favourable and unfavourable:
    - customer complaints
    - profitability
- safe work practices for displaying merchandise with particular emphasis on:
    - safe use of equipment
    - safe manual handling techniques for bending, lifting and shifting heavy items
- product knowledge relevant to visual merchandise activities:
    - price
    - features
    - benefits.

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:

- retail merchandise
- display areas
- retail display equipment and props
- product labels and price tickets
- ticketing and pricing equipment
- relevant documentation:
    - organisational visual merchandise display guidelines
    - organisational policies and procedures for:
        - merchandise labelling and pricing
        - required stock levels
        - merchandise rotation and replenishment
    - relevant industry codes of practice, legislation and statutory requirements for coordinating merchandise presentation:
        - Australian Consumer Law
        - Work Health and Safety (WHS)
- team members; these can be:
    - individuals in an industry workplace, or

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- 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

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SIRXPDK001 Advise on products and services

Modification History

Not applicable.

Application

This unit describes the performance outcomes, skills and knowledge required to develop product and service knowledge and provide information to customers.

This unit applies to individuals working in frontline customer service and sales roles in a diverse range of industry 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

Product Knowledge

Unit Sector

Cross-Sector

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. Develop product and service knowledge.	1.1. Identify and access sources of information on products and services. 1.2. Interpret information about availability, features and benefits of products and services.

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	1.3.Compare products and services based on product information. 1.4.Identify and use opportunities to update knowledge for the product and service range.
2. Respond to customer requests.	2.1.Answer customer questions about products and services with current and accurate information. 2.2.Use questions to clarify customer information needs. 2.3.Explain product and service details using clear communication. 2.4.Source additional information when answer to customer request is unknown or refer to relevant colleagues.
3. Enhance information provided.	3.1.Identify situations where additional information may assist the customer. 3.2.Advise on alternative products or services that may meet customer needs when requested item is not available. 3.3.Recommend complementary products, specials, new lines and promotions to customers according to their needs.

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
Numeracy skills to:	• interpret pricing 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

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Assessment Requirements for SIRXPDK001 Advise on products and services

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:

- access and interpret sources of information on four different products or services
- respond to four different customer inquiries for product or service information that individually or cumulatively require provision of information on all of the following:
  - features and benefits
  - price
  - alternative products or services
  - complementary products or services.

Knowledge Evidence

Demonstrated knowledge required to complete the tasks outlined in elements and performance criteria of this unit:

- organisational policies and procedures for:
  - interactions with customers
  - product or service pricing
- basic key aspects of legislation that impact provision of information for the product or service range:
  - Australian Consumer Law
  - product or service specific legislation
- interpersonal communication techniques:
  - active listening and questioning
  - communication methods which convey information clearly and concisely
- product and service information for the product or service range:
  - features and benefits
  - price
  - care and handling of products
  - availability
  - storage requirements, shelf life and use by date
  - warranties

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- ingredients or materials contained in product
- origins
- alternative products and services
- complementary products and services.

Assessment Conditions

Skills must be demonstrated in a services industries environment. This can be:

- an industry workplace
- a simulated industry environment.

Assessment must ensure access to:

- a product or service range
- sources of product information
- relevant documentation:
  - current plain English regulatory documents distributed by government regulators outlining factors that impact provision of information for the product or service range
  - price lists
  - organisational policies and procedures relevant to product and service advice
- customers; these can be:
  - customers 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

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SIRXRSK002 Maintain store security

Modification History

Not applicable.

Application

This unit describes the performance outcomes, skills and knowledge required to maintain store security in a retail environment.

It applies to individuals working in frontline management roles in a diverse range of industry sectors and business contexts. They operate independently with some responsibility for others and decision making, 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

Risk Management and Security

Unit Sector

Cross-Sector

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 maintain store security.	1.1. Implement organisational policies and procedures to ensure store security is maintained. 1.2. Monitor and review security procedures continually and act on opportunities to improve store security. 1.3. Maintain security of merchandise, cash, points of sale and

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	keys. 1.4. Ensure store security equipment is used and in correct working order. 1.5. Report matters impacting store security to relevant personnel. 1.6. Document breaches of security as required.
2. Facilitate security awareness.	2.1. Inform team members of organisational policies and procedures for security. 2.2. Provide team members with feedback on their implementation or non-implementation of security procedures. 2.3. Provide team members with ongoing supervision and training to facilitate security awareness.

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

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Assessment Requirements for SIRXRSK002 Maintain store security

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:

- maintain store security over three different work shifts by:
  - monitoring adherence to organisational security policies and procedures
  - responding to two occurrences of non-adherence to security policies and procedures
  - communicating security policies and procedures to one team member
  - ensuring security equipment is utilised and in correct working order
  - reporting on opportunities for improved store security.

Knowledge Evidence

Demonstrated knowledge required to complete the tasks outlined in elements and performance criteria of this unit:

- organisational policies and procedures for:
  - use of security equipment
  - suspicious customer behaviour
  - suspicious team member behaviour
  - armed robbery
  - cash and non-cash security
  - merchandise security
  - theft
  - responding to security breaches
  - reporting security risks and breeches
  - surveillance of merchandise
  - personal security
  - general store security
  - team members' security training
  - security for opening and closing premises
  - reporting problems and faults
  - security of visitors, sales representatives, contractors and vendors
  - security risks likely to endanger customers or team members

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- legislation as relevant to store security and own level of responsibility:
  - privacy laws
  - Australian Consumer Law
  - reporting procedures
- impacts of security breaches on individuals and organisation:
  - emotional distress
  - financial loss
  - commercial impacts
- common security risks within the retail workplace and techniques to:
  - identify risk
  - minimise risk
- types of store alarms and security systems used in industry.

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 equipment:
  - alarm systems
  - surveillance equipment
  - point-of-sale equipment
  - communication equipment
- relevant documentation:
  - current plain English regulatory documents distributed by government regulators legislation as relevant to store security and own level of responsibility as listed in Knowledge Evidence
  - organisational policies and procedures as listed in the Knowledge Evidence
- customers and team members; 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.

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Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=ca051b1b-5101-4ec2-ac1c-49699303188d

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SIRXSLS002 Follow point-of-sale procedures

Modification History

Not applicable.

Application

This unit describes the performance outcomes, skills and knowledge required to follow point-of-sale work systems, process transactions and complete sales.

It applies to individuals working in frontline operational roles in a diverse range of 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

Sales

Unit Sector

Cross-Sector

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. Follow point of sale work systems.	1.1. Open and close point-of-sale terminal at designated times and according to organisational procedures. 1.2. Clear point-of-sale terminal and transfer cash. 1.3. Handle cash according to organisational policies and

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	procedures. 1.4. Maintain supplies of change at agreed levels in point-of-sale terminal to agreed levels. 1.5. Maintain adequate supplies of consumables.
2. Process point-of-sale transactions.	2.1. Identify transaction type and required procedure to be followed. 2.2. Correctly interpret sale price information. 2.3. Make accurate calculations for pricing and collection of payment. 2.4. Enter accurate sale information into point-of-sale equipment. 2.5. Confirm price to customer and check customer payment against sale value. 2.6. Provide correct change for cash payments. 2.7. Identify transaction errors, follow procedures for resolution and complete accurate records.
3. Complete sales.	3.1. Generate and complete documentation associated with the sale. 3.2. Confirm and process any purchase follow up activities. 3.3. Acknowledge and thank customer in line with organisational policy.

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
Numeracy skills to:	• interpret numerical information from various sources and calculate accurately with or without the use of a calculator. • measure or estimate quantities to calculate costs. • calculate percentage discounts.

Unit Mapping Information

No equivalent unit.

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Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=ca051b1b-5101-4ec2-ac1c-49699303188d

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Assessment Requirements for SIRXSLS002 Follow point-of-sale procedures

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 procedures for set up, maintenance and close of point-of-sale area/terminal on three different occasions
- perform three point-of-sale transactions for each of the following:
  - cash sales
  - non-cash sales
- perform three point-of-sale transactions for each of the following:
  - refunds
  - exchanges
- make six accurate financial calculations relating to product pricing that individually or cumulatively involve:
  - multiple products
  - products of varying prices
  - products with percentage discounts
- follow procedures to complete four sales that require post purchase activity.

Knowledge Evidence

Demonstrated knowledge required to complete the tasks outlined in elements and performance criteria of this unit:

- organisational policies and procedures for:
  - exchanges
  - refunds
  - lay-by
- basic key aspects of legislation that impact point-of-sale activities:
  - Australian Consumer Law
- features of products sold by the organisation
- functions and procedures for operating point-of-sale equipment:
  - opening and closing
  - clearance of terminal and transference of tender

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  - recording takings
  - consumables required by system
  - security
- cash handling procedures:
  - counting cash
  - handling cash floats
  - change required, denominations of change and tendering change
  - security
- procedures for non-cash transactions:
  - credit cards
  - EFTPOS
  - vouchers
- types of purchase follow up activities and associated organisational policies and procedures:
  - placing of orders
  - delivery
  - issuing of invoices
  - issuing of receipts
  - wrapping and packing.

Assessment Conditions

Skills must be demonstrated in a service industries environment. This can be:

- an industry workplace
- a simulated industry environment.

Assessment must ensure access to:

- organisational policies and procedures for point-of-sale activities
- current plain English regulatory documents distributed by government regulators outlining key aspects of legislation that impact point-of-sale activities as listed in the Knowledge Evidence
- 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.

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Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=ca051b1b-5101-4ec2-ac1c-49699303188d

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SITXMGT002 Establish and conduct business relationships

Modification History

Not applicable.

Application

This unit describes the performance outcomes, skills and knowledge required to establish and manage positive business relationships. It requires the ability to use high-level communication and relationship building skills to conduct formal negotiations and make commercially significant business-to-business agreements.

The unit applies to all industry sectors, and to individuals who take responsibility for making decisions about purchasing or marketing activities. They also oversee the maintenance of contracts or agreements. This could include senior operational personnel, sales and marketing personnel, managers or owner-operators of small businesses. Agreements may relate to corporate accounts, service contracts, agency agreements, venue contracts, rate negotiations, preferred product agreements, supply agreements and marketing agreements.

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

Pre-requisite Unit

Nil

Competency Field

Management and Leadership

Unit Sector

Cross-Sector

Elements and Performance Criteria

ELEMENTS	PERFORMANCE CRITERIA
Elements describe the essential outcomes.	Performance criteria describe the performance needed to demonstrate achievement of the element.

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1. Build business relationships.	1.1. Establish relationships in line with organisational requirements and protocols. 1.2. Use effective communication skills and techniques to build business relationships. 1.3. Proactively identify and take up opportunities to maintain regular contact with customers and suppliers.
2. Conduct negotiations.	2.1. Use negotiation techniques in line with professional and organisational protocols to maximise benefits of relationship for all parties. 2.2. Incorporate feedback and input from colleagues into negotiation where appropriate. 2.3. Communicate results of negotiations to appropriate colleagues and stakeholders within appropriate timeframes.
3. Make formal business agreements.	3.1. Confirm agreements in writing according to organisational requirements, using formal contracts where appropriate. 3.2. Obtain approvals for all aspects of formal agreements according to organisational procedures. 3.3. Evaluate and act on the need for specialist advice as required.
4. Foster and maintain business relationships.	4.1. Proactively seek, review, and act upon information needed to maintain sound business relationships. 4.2. Honour agreements within scope of individual responsibility, complying with agreed terms. 4.3. Take account of agreed performance indicators. 4.4. Make adjustments to agreements in consultation with customer or supplier and share information with appropriate colleagues. 4.5. Nurture relationships through regular contact and use of effective interpersonal and communication styles.

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:	• interpret potentially complex agreements, conditions and contracts.
Writing skills to:	• develop or participate in the development of formal commercial agreements.
Oral communication	• conduct at times complex negotiations of significant commercial value.

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skills to:

Numeracy skills to:	• evaluate commercial data and cost structures.
Problem-solving skills to:	• evaluate potentially complex internal and external issues that affect professional relationships and business negotiations and identify appropriate options to resolve them • anticipate and respond to challenges in the negotiation process.
Initiative and enterprise skills to:	• proactively seek opportunities for building business relationships.

Unit Mapping Information

SITXMGT501 Establish and conduct business relationships

Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=68c40a93-e51d-4e0f-bc06-899dff092694

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Assessment Requirements for SITXMGT002 Establish and conduct 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:

- establish and maintain business relationships with at least two of the following:
  - cooperative partner with organisation
  - contractor
  - customer
  - networks
  - supplier
- conduct formal negotiations, or make and manage agreements and contracts in relation to the two relationships established above, relevant to the specific business context
- demonstrate the use of high-level communication and relationship building skills when conducting formal negotiations and making commercially significant business-to-business agreements in the above business relationships.

Knowledge Evidence

Demonstrated knowledge required to complete the tasks outlined in elements and performance criteria of this unit:

- commercial context for business relationships in the relevant industry sector and related:
  - industry structure and interrelationships
  - sources of supply
  - distribution and marketing networks
  - professional networks
- opportunities to maintain regular contact with customers and suppliers:
  - association membership
  - cooperative promotions
  - industry functions
  - informal social occasions
  - program of regular telephone contact
  - social media
- principles of negotiation, stages in the negotiating process, and different negotiation techniques that can be applied

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- nature of agreements and contracts in the relevant industry sector and their key role, features and inclusions
- key components of contract law at an overview level:
  - terms and obligations of contract
  - methods of contractual agreement
  - exclusion clauses
  - dispute resolution clause
  - termination of contracts
- other legal requirements that impact negotiations and agreements in the relevant industry.

Assessment Conditions

Skills must be demonstrated in an environment or activity in any industry sector where contracts are negotiated and agreed. This can be:

- an industry workplace
- a simulated industry environment.

Assessment must ensure access to:

- other people with whom business relationships can be established; these can be:
  - those 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.
- materials that support the negotiation process:
  - preparatory facts and statistics
  - key performance indicators
  - market information.

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=68c40a93-e51d-4e0f-bc06-899dff092694

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SITXMPR001 Coordinate production of brochures and marketing materials

Modification History

Not applicable.

Application

This unit describes the performance outcomes, skills and knowledge required to coordinate the development process for brochures and other marketing materials from a content and production perspective.

The unit applies to all industry sectors and all types of marketing materials, both physical and virtual. Individuals working independently with limited supervision undertake this role. Depending on the business context, this could include sales and marketing personnel, managers, and owner-operators of small businesses.

This unit reflects the general skills needed by those involved in sales and marketing activities and does not include the skills required by professional graphic designers or copywriters.

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

Pre-requisite Unit

Nil

Competency Field

Marketing and Public Relations

Unit Sector

Cross-Sector

Elements and Performance Criteria

ELEMENTS	PERFORMANCE CRITERIA
Elements describe the essential	Performance criteria describe the performance needed to

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outcomes.	demonstrate achievement of the element.
1. Plan production of brochures and marketing materials.	1.1. Plan production of brochures and marketing materials according to marketing objectives. 1.2. Evaluate factors that impact on nature of materials and development process, including sustainability considerations. 1.3. Create production plans, including timelines, responsibilities, budget and contingency measures.
2. Produce information for inclusion.	2.1. Produce or obtain accurate and complete information for inclusion. 2.2. Present information that promotes the business in a clear format and a culturally appropriate way.
3. Obtain quotations for artwork and printing as appropriate.	3.1. Provide accurate and complete specifications to quoting organisations within appropriate timeframe. 3.2. Obtain quotations with details of potential variations to cost and conditions that may apply.
4. Develop final copy for brochures and marketing materials.	4.1. Develop copy using basic creative writing techniques or obtain from relevant source. 4.2. Integrate accurate, practical and operational details. 4.3. Present accurate information about costs and conditions. 4.4. Check copy for accuracy prior to submission for production.
5. Coordinate production of brochures and marketing materials.	5.1. Liaise with production personnel and monitor schedule. 5.2. Check and correct production work as required. 5.3. Approve artwork according to organisational guidelines. 5.4. Obtain and deliver materials on schedule or action contingency measures.

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

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Reading skills to:	• interpret quotations and product conditions • proofread and edit draft materials • create copy or check quality of outsourced copy • research information for inclusion from varied and potentially unfamiliar sources.
Oral communication skills to:	• collaborate with others on technical, organisational and creative issues.

Numeracy skills to:	• calculate costs and quantities of materials to be produced
	• work with:
	  • numerical concepts of size, shape and layout
	  • detailed product costings.

Problem-solving skills to:	• evaluate factors that impact on production of marketing materials • respond to challenges that arise in the production of marketing materials.
Technology skills to:	• liaise with others about technical production issues • work with current industry marketing technologies.

Unit Mapping Information

SITXMPR401 Coordinate production of brochures and marketing materials

Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=68c40a93-e51d-4e0f-bc06-899dff092694

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Assessment Requirements for SITXMPR001 Coordinate production of brochures and marketing materials

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:

- produce at least three of the marketing materials listed in the knowledge evidence, coordinating all aspects of the development process within specified deadlines
- produce each of the above marketing materials to:
  - meet stated objectives
  - provide current and accurate information
- proofread each of the above to ensure they are free of errors.

Knowledge Evidence

Demonstrated knowledge required to complete the tasks outlined in elements and performance criteria of this unit:

- key features of marketing materials:
  - advertising material
  - conference program or registration form
  - destination guide
  - direct mail piece
  - display material
  - event prospectus
  - invitation
  - product brochure
  - product support manual
  - promotional flyer or leaflet
  - venue maps
- objectives of marketing materials and the markets for which material is required
- physical and virtual media marketing opportunities
- factors that impact production of materials in both physical and virtual contexts:
  - accessibility for those with disabilities
  - availability of information
  - design issues:

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    - style
    - size
  - legal requirements
  - marketing considerations:
    - distribution considerations
    - market for review of competitive materials
    - objectives
  - resource constraints:
    - budget
    - in-house capability
  - technology:
    - digital media opportunities
  - objectives of the material
  - sustainability considerations
  - time parameters
- current digital print production technologies, processes and terminology
- printing and industry conventions in relation to placement of information, page numbering and copyright information
- specification inclusions:
  - conditions of contract
  - delivery platform
  - interactivity requirements
  - layout and style of text
  - number of colours
  - number of photographs
  - production and delivery deadlines
  - size
  - total number required
  - type of paper (for print-based materials)
- quality indicators in marketing material production:
  - readability
  - photographic quality
  - effective use of colour
  - spacing requirements
- creative writing techniques used for the content of brochures and other marketing materials
- procedures and requirements for preparation and proofing of material
- copyright laws and restrictions that apply to the inclusion of certain content in brochures and other marketing materials
- procedures for copyright clearance of restricted materials

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- trade practices requirements around the need for accuracy of information in marketing materials.

Assessment Conditions

Skills must be demonstrated in an operational business environment for which brochures and marketing materials can be developed. This can be:

- an industry workplace
- a simulated industry environment.

Assessment must ensure access to:

- current information and communications technology for the development of content
- suppliers of graphic design services, print production organisations and copywriters with whom the individual can interact; these can be:
  - those 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 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=68c40a93-e51d-4e0f-bc06-899dff092694

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SITXMPR002 Create a promotional display or stand

Modification History

Not applicable.

Application

This unit describes the performance outcomes, skills and knowledge required to create a display or stand for promotional purposes. It requires the ability to identify the objectives of the promotion, determine the audience, select all display components and assemble the display or stand.

The unit applies to all industry sectors. Individuals working with some level of independence create displays at promotional events or within their own workplaces. This includes sales and marketing personnel, managers, and owner-operators of small businesses. Displays may be used to promote any product, service, or event; a group of products cooperatively marketed, or even a whole city, region or tourism precinct.

This unit does not cover the skills of a specialist display designer or visual merchandiser.

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

Pre-requisite Unit

Nil

Competency Field

Marketing and Public Relations

Unit Sector

Cross-Sector

Elements and Performance Criteria

ELEMENTS	PERFORMANCE CRITERIA
Elements describe the	Performance criteria describe the performance needed to

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essential outcomes.	demonstrate achievement of the element.
1. Make preparations for display or stand.	1.1. Determine display or stand objectives in consultation with appropriate colleagues. 1.2. Obtain operational information to assist in display or stand preparation to allow time for adequate planning. 1.3. Plan display or stand to meet target audience needs. 1.4. Select and organise adequate display supplies and transportation arrangements according to display plan. 1.5. Identify need for, and seek assistance from, display specialists where appropriate.
2. Create display.	2.1. Create or dress display or stand, making creative use of available materials and supplies. 2.2. Consider the elements and principles of design in creating the display. 2.3. Use display techniques that maximise visual appeal of display and reflect nature of product or service being promoted. 2.4. Use display equipment correctly and safely. 2.5. Check display or stand to ensure safety of colleagues and customers. 2.6. Disassemble display safely and 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.

SKILLS	DESCRIPTION
Reading skills to:	• interpret information about the needs of the target audience and operational aspects of the display or stand.
Numeracy skills to:	• work with concepts of size, space and layout.
Problem-solving skills to:	• evaluate options for creative display.
Planning and organising skills to:	• coordinate practical and creative aspects of display creation.

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Unit Mapping Information

SITXMPR402 Create a promotional display or stand

Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=68c40a93-e51d-4e0f-bc06-899dff092694

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Assessment Requirements for SITXMPR002 Create a promotional display or stand

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:

- create two different displays and dress two different promotional stands to meet specific organisational objectives
- use three of the following in the above displays and stands:
  - cultural artefacts
  - fabric
  - flags
  - freestanding display options
  - local produce
  - printed materials
  - product samples
  - signs
  - three-dimensional (3-D) materials
- create the above displays and stands:
  - applying the elements and principles of design
  - safely and within typical workplace time constraints.

Knowledge Evidence

Demonstrated knowledge required to complete the tasks outlined in elements and performance criteria of this unit:

- industry contexts in which displays are used:
  - information centre displays
  - promotional functions
  - shopping centre promotions
  - trade and consumer shows
  - window displays
- information to be considered when preparing a promotional display or stand:
  - budget allocation
  - floor plans

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  - nature of display area
  - need for utilities
  - need for waste management
  - work health and safety requirements
  - security
  - set-up times and duration
  - type of surface on which display is to be created
- materials and equipment used for display in different locations and settings
- elements and principles of design as they apply to the creation of displays
- visual merchandising techniques using commonly available materials, and techniques for maximising the effectiveness of collateral in displays
- work health and safety practices for transporting, carrying and assembling the display or stand
- safety issues associated with the construction and operation of promotional displays and stands in different venues.

Assessment Conditions

Skills must be demonstrated in an operational business environment or activity. This can be:

- an industry workplace
- a simulated industry environment.

Assessment must ensure access to:

- display space or promotional stand
- display and promotional materials used in the relevant industry sector
- display supplies:
  - adhesives and velcro
  - audio-visual systems
  - balloons and other decorations
  - collateral materials
  - computers
  - floral arrangements and potted plants
  - furniture
  - mobiles
  - pins
  - scissors
  - string.

Assessors must satisfy the Standards for Registered Training Organisations' requirements for assessors.

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Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=68c40a93-e51d-4e0f-bc06-899dff092694

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SITXMPR004 Coordinate marketing activities

Modification History

Not applicable.

Application

This unit describes the performance outcomes, skills and knowledge required to plan and coordinate a range of marketing and promotional activities at an operational level. The unit incorporates knowledge of marketing principles.

The unit applies to all industry sectors, and to individuals who are responsible for coordinating marketing activities within the parameters of an established marketing strategy. Individuals working independently with limited supervision undertake this role. This could include marketing coordinators or managers and owner-operators of small businesses.

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

Pre-requisite Unit

Nil

Competency Field

Marketing and Public Relations

Unit Sector

Cross-Sector

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 and organise marketing activities.	1.1. Plan marketing activities according to marketing plan or other organisational systems. 1.2. Identify, analyse and incorporate relevant market information

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	and legal, ethical and sustainability requirements into short-term planning. 1.3. Confirm target markets and marketing medium. 1.4. Evaluate potential and suitability of marketing opportunities that arise. 1.5. Proactively seek and evaluate innovative marketing opportunities, including use of new technologies and media. 1.6. Develop and implement action plans to address operational details.
2. Undertake a general public relations role.	2.1. Establish and conduct positive relationships with industry and media colleagues. 2.2. Use networks to support marketing activities. 2.3. Develop public relations resources as required, including media releases and industry or media support materials.
3. Review and report on marketing activities.	3.1. Review activities according to agreed evaluation methods and incorporate results into future planning. 3.2. Prepare reports according to organisational policy and required timeframes. 3.3. Present current and clear market intelligence to inform sales and marketing planning.

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:	• interpret market trend information and marketing plans.
Numeracy skills to:	• work within marketing budgets.
Problem-solving skills to:	• evaluate the potential of different marketing activities • proactively identify and respond to potentially complex implementation challenges.
Planning and organising skills to:	• coordinate diverse and unpredictable operational details.
Self-management skills to:	• take responsibility for quality and outcomes of marketing activities.
Technology skills to:	• work with current web-based marketing technologies.

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Unit Mapping Information

SITXMPR404 Coordinate marketing activities

Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=68c40a93-e51d-4e0f-bc06-899dff092694

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Assessment Requirements for SITXMPR004 Coordinate marketing activities

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:

- plan and coordinate at least two different marketing activities for an operation, product or service
- use industry networks, information sources, and distribution and marketing networks when planning and coordinating the above activities
- reflect types of marketing activities used in the relevant industry sector and major industry promotional events in the above activities
- apply marketing principles to each marketing activity
- evaluate and report on each of the above marketing activities against the following criteria:
  - consistency with overall marketing direction
  - exposure that was achieved
  - matching attendees to target market
  - cost-effectiveness of financial and human resources
  - completion within established timeframe.

Knowledge Evidence

Demonstrated knowledge required to complete the tasks outlined in elements and performance criteria of this unit:

- content and structure of marketing plans
- key marketing principles:
  - marketing management process
  - the four Ps: product, place, price and promotion
  - SWOT analysis: strengths, weaknesses, opportunities and threats
- industry structure and interrelationships, industry networks and information sources
- industry and market knowledge appropriate to the sector and organisation:
  - distribution and marketing networks, especially those that support the product or service being promoted
  - e-business marketing options and major promotional events
  - commission structures

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    - current customer and market trends and preferences
- features, benefits and practical application of marketing activities commonly used in the service industries:
    - advertising
    - familiarisations
    - in-house promotions
    - public relations
    - social media
    - trade and consumer shows
    - signage and display
- information inputs into the planning process:
    - competitive activity
    - financial statistics
    - marketing reports
    - marketplace trends
    - sales reports
- considerations in evaluating the suitability of marketing activities:
    - consistency with overall marketing direction
    - exposure to be achieved
    - matching of attendees to target markets
    - resource considerations:
        - financial
        - human
    - timing of activity or event
- operational details relevant to the coordination of marketing activities:
    - administrative and procedural requirements
    - availability of promotional materials
    - available technology
    - contracting of other services
    - equipment requirements
    - need for external assistance
    - potential for cooperative approaches
    - public relations implications
    - staffing requirements and briefings
    - strategies to ensure maximum benefits
    - travel arrangements
- legal issues that impact on the marketing of products and services
- ethical considerations for marketing activities:
    - appropriate use of images and text
    - protection of children

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    - targeting of particular groups in the community
- sustainability considerations for marketing activities:
    - reducing waste of printed materials
    - sustainability as a marketing tool.

Assessment Conditions

Skills must be demonstrated in an operational business environment. This can be:

- an industry workplace
- a simulated industry environment.

Assessment must ensure access to:

- products or services for which the individual can conduct marketing activities
- current information and communications technology used by industry for marketing activities
- marketing plans, operational marketing documents, action plans and marketing reports.

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=68c40a93-e51d-4e0f-bc06-899dff092694

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TAEASS401 Plan assessment activities and processes

Modification History

Release	Comments
Release 2	This was first released with *TAE Training and Education Training Package Release 2.1.* Minor update to Assessment Conditions.
Release 1	This version first released with *TAE Training and Education Training Package Release 2.0.*

Application

This unit describes the skills and knowledge required to plan the assessment process, including recognition of prior learning (RPL), in a competency-based assessment system.

It applies to individuals with assessment planning responsibilities.

In planning activities and processes, individuals are required to identify the components of assessment tools, analyse and interpret assessment tools, and develop assessment instruments (also known as assessment tasks) and assessment plans.

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

Unit Sector

Assessment

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 the assessment approach	1.1 Identify the candidate and confirm the purposes and context of the assessment with relevant people according to legal,

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ELEMENT	PERFORMANCE CRITERIA
	organisational and ethical requirements 1.2 Identify and access applicable industry or workplace standards for the assessment, and any specific assessment requirements
2. Prepare the assessment plan	2.1 Analyse units of competency and assessment requirements to identify evidence needed to demonstrate competence, according to the rules of evidence 2.2 Select assessment methods and instruments to support the collection of defined evidence, taking into account the context in which the assessment will take place 2.3 Develop the assessment plan and gain approval from relevant stakeholders
3. Identify modification and contextualisation requirements	3.1 Use information from the candidate and, where relevant, the candidate's workplace to identify contextualisation needs 3.2 Check advice provided by the training package or course developer relevant to identified contextualisation needs 3.3 Analyse existing assessment tools and record amendments required to address identified contextualisation needs 3.4 Determine opportunities for integrated assessment activities and record any changes required to assessment tools
4. Develop the assessment instruments	4.1 Analyse available assessment instruments for their suitability for use, and identify any required modifications 4.2 Develop assessment instruments to meet the required standard and specific workplace/candidate needs 4.3 Map assessment instruments against the unit or course requirements 4.4 Write clear instructions for the candidate and assessor regarding the use of assessment instruments 4.5 Check and confirm that draft assessment instruments meet required standards and specific workplace/candidate needs and record outcomes of checks

Foundation Skills

This section describes language, literacy, numeracy and employment skills incorporated in the performance criteria that are required for competent performance.

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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
Reading	1.1, 1.2, 2.1, 3.1, 3.2, 3.3, 3.4, 4.2, 4.3	• Identifies and confirms legal, organisational and ethical requirements • Selects and analyses assessment-related documents
Writing	1.1, 2.1, 2.2, 2.3, 3.1, 3.2, 3.3, 3.4, 4.1, 4.2, 4.3, 4.4, 4.5	• Documents the assessment plan • Develops assessment instruments, including instructions and mapping • Records outcomes of draft assessment checks
Oral Communication	1.1, 2.3, 3.1	• Participates in exchanges about assessment processes and the trialling of instruments appropriate to the audience
Navigate the world of work	1.1	• Identifies, confirms and takes responsibility for adherence to policies, procedures, legal, and ethical requirements
Interact with others	1.1, 2.3, 3.1	• Collaborates with others as part of routine activities, and to confirm understanding
Get the work done	1.1, 1.2, 2.1, 2.2, 3.1, 3.2, 3.3, 3.4, 4.2, 4.3, 4.5	• Plans a range of routine processes and related tasks with logically sequenced steps, according to defined standards or parameters • Uses formal decision-making processes, identifying information and evaluating several choices against a limited set of criteria • Evaluates effectiveness of planning and design decisions in terms of how well they meet requirements

Unit Mapping Information

Code and title current version	Code and title previous version	Comments	Equivalence status
TAEASS401 Plan assessment activities and processes	TAEASS401B Plan assessment activities and processes	Updated to meet Standards for Training Packages. Addition of new element.	No equivalent unit

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Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=35337905-785d-4f93-8777-e9991ad4c6c3

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Assessment Requirements for TAEASS401 Plan assessment activities and processes

Modification History

Release	Comments
Release 2	This was first released with *TAE Training and Education Training Package Release 2.1.* Minor update to Assessment Conditions.
Release 1	This version first released with *TAE Training and Education Training Package Release 2.0.*

Performance Evidence

The candidate must demonstrate the ability to complete tasks outlined in the elements and performance criteria of this unit, including:

- planning and organising the assessment process on a minimum of five separate occasions
- planning and organising two Recognition of Prior Learning (RPL) assessments (which may be two of the five assessment processes above.)

The evidence requirements for each occasion must include:

- a documented assessment plan
- a different endorsed or accredited unit of competency (or clusters of units of competency) for each of the five occasions
- contextualisation of the unit(s) of competency and the selected assessment tools, where required
- incorporation of reasonable adjustment strategies
- development of suitable assessment instruments for each of the five occasions

following organisational arrangements.

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:

- obligations of an assessor under applicable legislation and/or standards

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- the major features of a unit of competency, and how they are to be addressed in assessment activities and processes
- interpreting competency standards as the minimum standard for assessment
- guidelines for contextualising units of competency
- different purposes of assessment and different assessment contexts, including RPL
- the purpose and features of evidence, and different types of evidence, used in competency-based assessments, including RPL
- the principles of assessment, and how they guide the assessment process
- the rules of evidence and how they guide the assessment process
- different assessment methods, including their suitability for collecting various types of evidence
- the components of assessment tools

different types of assessment instruments and their purpose and relevance for specific evidence-gathering opportunities.

Assessment Conditions

Gather evidence to demonstrate consistent performance in conditions that are safe and which are typical of those experienced in the training and assessment environment. This includes access to the units of competency used in assessment planning activities.

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

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TAEASS402 Assess competence

Modification History

Release	Comments
Release 2	This was first released with *TAE Training and Education Training Package Release 2.1.* Minor update to Assessment Conditions.
Release 1	This version first released with *TAE Training and Education Training Package Release 2.0.*

Application

This unit describes the skills and knowledge required to implement an assessment plan, and gather quality evidence to assess the competence of a candidate using compliant assessment tools.

It applies to teachers, trainers and assessors in enterprises and registered training organisations (RTOs) and those providing assessment advisory services.

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

Unit Sector

Assessment

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. Prepare for the assessment	1.1 Interpret assessment planning documentation and applicable organisational, legal and ethical requirements for conducting the assessment and confirm with the relevant people 1.2 Access and interpret units of competency that are to be used as

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ELEMENT	PERFORMANCE CRITERIA
	benchmarks for assessment, and the nominated assessment tools, to confirm the requirements for the evidence to be collected 1.3 Determine opportunities for integrated assessment activities and document any changes to the assessment instruments, where required 1.4 Determine opportunities for evidence-gathering in actual or simulated activities, through consultation with the candidate and relevant personnel 1.5 Conduct a candidate briefing and explain, discuss and agree on the details of the planned assessment 1.6 Arrange identified material and physical resource requirements 1.7 Identify any specialist support requirements for the assessment, and organise if necessary
2. Gather quality evidence	2.1 Use agreed assessment methods and tools to gather, organise and document evidence in a format suitable for determining competence 2.2 Apply the principles of assessment and rules of evidence in gathering quality evidence
3. Support the candidate	3.1 Discuss and guide candidates in gathering their own evidence to support the recognition of prior learning (RPL) 3.2 Use appropriate communication and interpersonal skills to develop a professional relationship with the candidate that reflects sensitivity to individual differences and enables two-way feedback 3.3 Make decisions on reasonable adjustments with the candidate, based on the candidate's needs and characteristics 3.4 Access specialist support, if required, in accordance with the assessment plan 3.5 Address any workplace health and safety (WHS) risk to a person or equipment immediately
4. Make the assessment decision	4.1 Assess the collected evidence, and to evaluate whether it reflects the evidence required to demonstrate competence 4.2 Use judgement to infer whether competence has been demonstrated, based on the available evidence 4.3 Make the assessment decision in line with agreed assessment procedures and according to the agreed assessment plan 4.4 Provide clear and constructive feedback to the candidate regarding the assessment decision, and clearly document

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ELEMENT	PERFORMANCE CRITERIA
	follow-up, if required
5. Record and report the assessment decision	5.1 Record assessment outcomes promptly and accurately 5.2 Complete and submit required assessment documentation, according to assessment procedures and confidentiality conventions 5.3 Inform other relevant parties of the assessment decision, according to confidentiality conventions
6. Review the assessment process	6.1 Review the assessment process in consultation with candidates and other relevant people to improve future practice 6.2 Document and record the review according to relevant assessment system 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	Performance Criteria	Description
Reading	1.1, 1.2, 2.1, 4.1	• Accesses and interprets procedural and compliance documentation relevant to the assessment process • Examines and evaluates assessment evidence
Writing	1.1, 1.3, 1.5, 2.1, 3.1, 5.1, 5.2, 5.3, 6.2	• Completes workplace documentation accurately using appropriate language and following organisational requirements
Oral Communication	1.1, 1.4, 1.5, 3.1, 3.4, 4.4, 5.3, 6.1	• Communicates information and assessment process requirements clearly, using techniques appropriate to the audience and environment • Interacts appropriately with candidates to build rapport and understanding, and obtain specific information to support the assessment process
Navigate the world of work	1.1, 3.5, 5.3	• Identifies, confirms and takes responsibility for adherence to legal and ethical requirements • Recognises, and follows, explicit and implicit protocols and meets expectations associated with own role

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Interact with others	1.1, 1.4, 1.5, 3.1, 3.2, 3.4, 5.3, 6.1	• Adjusts personal communication style in recognition of the values and experiences of others to build rapport • Cooperates and collaborates with others and contributes to activities requiring joint responsibility and accountability
Get the work done	1.1, 1.2, 1.3, 1.4, 1.6, 1.7, 2.1, 2.2, 3.3, 3.4, 4.1, 4.2, 4.3, 6.1, 6.2	• Uses systematic, analytical processes in complex, non-routine situations, gathering information, and identifying and evaluating options against agreed criteria • Organises work according to specific requirements taking some responsibility for decisions regarding the format of information • With guidance, reviews the effectiveness of solutions in relation to the set goals

Unit Mapping Information

Code and title current version	**Code and title previous version**	**Comments**	**Equivalence status**
TAEASS402 Assess competence	TAEASS402B Assess competence	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

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Assessment Requirements for TAEASS402 Assess competence

Modification History

Release	Comments
Release 2	This was first released with *TAE Training and Education Training Package Release 2.1.* Minor update to Assessment Conditions.
Release 1	This version first released with *TAE Training and Education Training Package Release 2.0.*

Performance Evidence

The candidate must show evidence of the ability to complete tasks outlined in the elements and performance criteria of this unit, including:

- assessment of at least five candidates within the vocational education and training (VET) context against at least one endorsed or accredited unit of competency according to the organisation's assessment processes and practices.
- using recognition of prior learning (RPL) processes in the assessment of at least one candidate (which may be one of the five candidates above)
- making reasonable adjustments in the assessment of at least one candidate.

The assessments must be undertaken under the supervision of a qualified assessor and cover an entire unit of competency for each candidate, including:

- the application of different assessment methods and instruments involving a range of activities and events
- using two-way communication and feedback with the candidate
- exercising judgement in making the assessment decision
- recording and reporting assessment outcomes in accordance with the assessment system and organisational, legal and ethical requirements

reviewing the assessment process.

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:

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- competency-based assessment, including:
  - VET as a competency-based system
  - how competency based assessment differs from other types of assessment
  - competency standards as the basis of qualifications
  - structure and application of competency standards
  - the principles of assessment and how they are applied
  - the distinction between assessment tools and assessment instruments
  - the rules of evidence and how they are applied
  - the range of assessment purposes and assessment contexts, including RPL
  - different assessment methods, including suitability for gathering various types of evidence, suitability for the content of units, and resource requirements and associated costs
  - reasonable adjustments and when they are applicable
  - types and forms of evidence, including assessment instruments that are relevant to gathering different types of evidence used in competency-based assessment, including RPL
  - the training and assessment strategies, including policies and procedures established by the industry, organisation or training authority
- RPL policies and procedures established by the organisation
- cultural sensitivity and equity considerations in assessment activities
- current legislative requirements relevant to the assessor and the assessment process
- workplace health and safety (WHS) responsibilities associated with assessing competence, including:
  - requirements for reporting hazards and incidents
  - emergency procedures
  - procedures for the use of relevant personal protective equipment
  - the safe use and maintenance of relevant equipment
  - sources of WHS information.

Assessment Conditions

Gather evidence to demonstrate consistent performance in a real assessment environment. The assessment environment must include access to assessment tools and recording materials.

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

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TAEASS403 Participate in assessment validation

Modification History

Release	Comments
Release 2	This was first released with *TAE Training and Education Training Package Release 2.1.* Minor updates to Assessment Conditions.
Release 1	This version first released with *TAE Training and Education Training Package Release 2.0*

Application

This unit describes the skills and knowledge required to participate in an assessment validation process.

It applies to assessors and workplace supervisors with assessment validation responsibilities participating in, but not necessarily leading, the process.

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

Unit Sector

Assessment

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. Prepare for validation	1.1 Discuss and confirm the purpose, context and scope of the validation process within relevant assessment system policies and procedures 1.2 Arrange materials for validation activities

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ELEMENT	PERFORMANCE CRITERIA
	1.3 Check all documents used in the validation process for accuracy and version control 1.4 Analyse relevant units of competency and agree on the evidence needed to demonstrate competence
2. Participate in the validation of assessment tools	2.1 Demonstrate active and appropriate participation in validation sessions and activities using agreed communication methods and modes 2.2 Apply principles of assessment and rules of evidence during validation sessions and activities 2.3 Check that context and conditions of assessment include clear instructions for assessor and candidate and relate directly to the assessment conditions of the relevant unit 2.4 Check that tasks to be administered to the candidate include clear and concise instructions and an outline of evidence requirements 2.5 Check that assessment decision-making rules and benchmarks, are clear and enable consistent outcomes 2.6 Check that recording mechanisms are clear and allow for sufficient information to be recorded 2.7 Review and use assessment maps to assist in determining validity of assessment instruments
3. Contribute to validation outcomes	3.1 Discuss validation findings to support improvements in the quality of assessment in a collective environment 3.2 Discuss, agree and record recommendations to improve assessment practice

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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
Reading	1.1, 1.3, 1.4, 2.3, 2.4, 2.5, 2.6, 2.7	• Analyses and interprets relevant policies and procedures, benchmarks and validation materials
Writing	1.1, 3.2	• Records key information from the validation process accurately to meet requirements
Oral Communication	1.1, 1.4, 2.1, 2.2, 3.1, 3.2	• Communicates with others to confirm approaches, exchange ideas and information, articulate opinions, and reach agreement with others, using suitable tone, style and language
Navigate the world of work	1.1	• Identifies, confirms and takes responsibility for adherence to policies and procedures
Interact with others	1.1, 2.1, 2.2, 3.1, 3.2	• Collaborates with others and contributes to activities requiring joint responsibility and accountability
Get the work done	1.1, 1.2, 1.3, 1.4, 2.3, 2.4, 2.5, 2.6, 2.7, 3.2	• Organises and prioritises work commitments with a sense of what is achievable within the timeframe • Uses analytical processes in non-routine situations gathering information, and identifying and evaluating options against agreed criteria

Unit Mapping Information

Code and title current version	Code and title previous version	Comments	Equivalence status
TAEASS403 Participate in assessment validation	TAEASS403B Participate in assessment validation	Updated to meet Standards for Training Packages. Revised performance criteria.	No equivalent unit

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Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=35337905-785d-4f93-8777-e9991ad4c6c3

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Assessment Requirements for TAEASS403 Participate in assessment validation

Modification History

Release	Comments
Release 2	This was first released with *TAE Training and Education Training Package Release 2.1.* Updates to Assessment Conditions.
Release 1	This version first released with *TAE Training and Education Training Package Release 2.0*

Performance Evidence

The candidate must show evidence of the ability to complete tasks outlined in the elements and performance criteria of this unit, including:

- actively participating in a minimum of three validation sessions that address the critical aspects of validation
- clearly identifying the purpose for each validation, and the legal and ethical responsibilities of assessors
- collating and presenting documentation for each validation in a logical manner
- communicating and liaising with relevant people
- providing feedback and interpreting documentation in validation sessions
- recording their contribution to validation findings.
-

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:

- how to determine the evidence needed to demonstrate competence in a competency-based environment
- the reasons for carrying out validation and different approaches to validation that may be appropriate before, during and after an assessment
- the components of assessment tools
- critical aspects of validation, including validation of assessment processes, methods and products
- how principles of assessment are addressed in validation

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- how rules of evidence are addressed in validation
- work health and safety legislation, codes of practice, standards and guidelines that impact on assessment
- obligations of an assessor under applicable legislation and/or standards, particularly in relation to validation activities.
-

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:

- the texts and tasks usually found in the workplace
- units of competency and other materials used in validation sessions.

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

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TAEDEL301 Provide work skill instruction

Modification History

Release	Comments
Release 1	This version first released with *TAE Training and Education Training Package Version 2.0.*

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
Elements describe the essential outcomes.	*Performance criteria describe the performance needed to demonstrate achievement of the element.*
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

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ELEMENT	PERFORMANCE CRITERIA
	materials for suitability and relevance, and seek assistance to interpret the contextual application 1.5 Organise access to necessary equipment or physical resources required for instruction and demonstration 1.6 Notify learners of details regarding the implementation of the learning program and/or delivery plan
2. Conduct instruction and demonstration	2.1 Use interpersonal skills with learners to establish a safe and comfortable learning environment 2.2 Follow the learning program and/or delivery plan to cover all learning objectives 2.3 Brief learners on any workplace health and safety (WHS) procedures and requirements prior to, and during, training 2.4 Use delivery techniques to structure, pace and enhance learning 2.5 Apply coaching techniques to assist learning 2.6 Use communication skills to provide information, instruct learners and demonstrate relevant work skills 2.7 Provide opportunities for practice during instruction and through work activities 2.8 Provide and discuss feedback on learner performance to support learning
3. Check training performance	3.1 Use measures to ensure learners are acquiring, and can use, new technical and generic skills and knowledge 3.2 Monitor learner progress and outcomes in consultation with the learner 3.3 Review relationship between the trainer/coach and the learner, and adjust to suit learner needs
4. Review personal training performance	4.1 Reflect upon personal performance in providing instruction and demonstration, and document strategies for improvement 4.2 Maintain, store and secure learner records, according to organisational and legal requirements

Foundation Skills

This section describes language, literacy, numeracy and employment skills incorporated in the performance criteria that are required for competent performance.

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Skill	Performance Criteria	Description
Learning	4.1	• Reflects on practice to improve
Reading	1.1, 1.3, 1.4, 2.2	• 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	• 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	• 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	• 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	• 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

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Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=35337905-785d-4f93-8777-e9991ad4c6c3

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Assessment Requirements for TAEDEL301 Provide work skill instruction

Modification History

Release	Comments
Release 1	This version first released with *TAE Training and Education Training Package Version 2.0.*

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.

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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

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TLIA5058 Manage facility and inventory requirements

Modification History

Release 1. This is the first release of this unit of competency in the TLI Transport and Logistics Training Package.

Application

his unit involves the skills and knowledge required to manage a facility and its inventory requirements, in various contexts within the transport and logistics industry.

It includes identifying space, safety and security requirements; developing a documentation system; designing storage zones and evaluating facility utilisation.

This unit generally applies to those who provide leadership of others individually or in teams.

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	PERFORMANCE CRITERIA
Elements describe the essential outcomes.	Performance criteria describe the performance needed to demonstrate achievement of the element.
1 Identify space requirements	1.1 Organisational medium-term and long-term storage needs are assessed to facilitate planning, in accordance with the enterprise business plan and legislative requirements

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	1.2 Product type, picking frequencies, value, fragility, weight, handling characteristics, quantity and holding periods are assessed to consider type and amount of storage
	1.3 Facility is assessed to determine stock holding and handling requirements for each inventory item
	1.4 Volume requirements are calculated to ensure ongoing stock holding needs are met
	1.5 Total space requirement is calculated and used to formulate a space utilisation plan
2 Identify safety and security requirements	2.1 Assessment is made of risks to ensure maximum safety and security for personnel, stock and facilities
	2.2 Storage handling security and incident/emergency procedures for each class or type of product are identified and documented
	2.3 Fire prevention and firefighting systems are identified in accordance with building code regulations and storage material requirements
	2.4 Evacuation plan is developed in accordance with the enterprise safety program
3 Develop and implement documentation system	3.1 System for recording and tracing stock location, receival, throughput and despatch is developed and implemented to enable reporting, quality assurance and financial requirements to be met
	3.2 System for recording communication with carriers, customers and employees is developed and implemented to assess operational effectiveness and to provide data for system improvement
4 Design storage zones	4.1 Space requirements and equipment operation are accurately assessed to facilitate warehouse zone planning
	4.2 Assessment is made of the facility to enable the most effective use of available space
	4.3 Positioning of storage areas, bays, work stations and the like is undertaken in accordance with planning process data
	4.4 Provision for maintenance and cleaning is catered for
5 Evaluate facility	5.1 Continual system of review is used involving regular checks to ensure storage areas and systems are functioning at

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utilisation	optimum levels
	5.2 Receiving and despatching systems are assessed to ensure they provide efficient operations
	5.3 Storage and handling systems are assessed to ensure they provide ease of access and comply with ergonomic principles
	5.4 Product handling and storage process are assessed to ensure minimisation of product damage, contamination and stock losses
	5.5 Flexibility of facility layout to meet changing storage and handling requirements is maintained
	5.6 Appropriate reporting systems are established and used to capture and maintain data to design improved facilities and systems

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 TLIA5058A Manage facility and inventory requirements.

Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=df441c6e-213d-43e3-874c-0b3f7036d851

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Assessment Requirements for TLIA5058 Manage facility and inventory requirements

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 hazards that may exist during work activities
- applying relevant legislation and workplace procedures
- communicating and working effectively with others when managing facility and inventory requirements
- developing and implementing contingency plans
- prioritising work and coordinating the work of others
- providing leadership to others when managing facilities and inventory requirements
- reading and interpreting plans, diagrams, regulations, codes of practice and other documentation relevant to managing facilities and inventory requirements
- reporting and/or rectifying identified problems promptly
- selecting and applying appropriate technology, information systems and procedures when managing facility and inventory requirements.

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:

- emergency procedures
- enterprise business policies and plans including procedures for facility operations
- operational warehouse systems, resources, management and workplace operating systems
- principles, purpose and location of controls, monitoring devices and systems
- procedures for managing and controlling hazardous situations when carrying out work activities, particularly those that relate to storing materials

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- procedures for operating electronic communications equipment
- relevant sections of national and state/territory regulatory requirements and codes of practice, including applicable facility fire safety and building regulations
- requirements for completing relevant documentation
- selection and appropriate application of technology, information systems and procedures
- throughput and storage requirements for specific types of inventory.

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

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TLID2010 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 in compliance with the relevant state/territory authority licence requirements and regulations, in a variety of operational contexts.

It includes checking forklift condition, driving forklift to fulfil operational requirements, and monitoring and maintaining forklift performance and site conditions.

Assessment of this unit will usually be undertaken within a licensing examination conducted by, or under the authority of, the relevant state/territory work health and safety (WHS)/occupational health and safety (OHS) authority.

Operation of a forklift 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.

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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 Condition of forklift is checked for compliance with WHS/OHS and workplace requirements for warning devices, manufacturer specifications and nature of load shifting task
	1.2 Attachments are checked to ensure appropriate adjustment and operation
	1.3 Mirrors and seats are adjusted for safe operation by driver
	1.4 Logbooks are checked and appropriate workplace documentation is completed in accordance with workplace requirements
2 Drive forklift	2.1 Forklift is started, steered, manoeuvred, positioned and stopped in accordance with regulations and manufacturer instructions
	2.2 Engine power is managed to ensure efficiency and performance and to minimise engine and gear damage
	2.3 Operational hazards are identified and/or anticipated and avoided or controlled through defensive driving and appropriate hazard control techniques
	2.4 Forklift is driven in reverse, maintaining visibility and achieving accurate positioning
	2.5 Forklift is parked, shut down and secured in accordance with manufacturer specifications, regulations and workplace procedures
3 Operate forklift to handle loads	3.1 Lifting task to be undertaken is appropriately planned, and correct lifting truck and attachments are selected
	3.2 Load is lifted, carried, lowered and set down in accordance with WHS/OHS legislation, manufacturer specifications and company 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 assessed to enable safe operations and to ensure no injury to people or damage to property, equipment, loads or facilities occurs

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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

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 TLID2010A 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

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Assessment Requirements for TLID2010 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 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 relevant legislation and workplace procedures
- checking and replenishing fluids, and carrying out lubrication processes
- communicating and working effectively with others
- completing relevant documentation
- ensuring forklift and its equipment are maintained in terms of service schedule and standard operating procedures
- identifying points of balance and safe lifting positions on a range of loads when operating a forklift (including accessories)
- modifying activities depending on operational contingencies, risk situations and environments
- monitoring performance of forklift and its equipment, and taking appropriate action as required
- monitoring and prioritising work activities in terms of planned schedule
- operating and adapting to differences in equipment in accordance with standard operating procedures
- 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 conforming to industry and WHS/OHS standards
- working systematically with required attention to detail without injury to self or others, or damage to goods or equipment.

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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
- forklift handling procedures
- high risk work licence requirements
- operating hazards and related defensive driving and hazard control techniques
- operational emergency procedures
- pre-operational checks carried out on forklift and related action
- principles of stress management when driving a forklift
- relevant duty of care requirements for operating a forklift
- relevant WHS/OHS and environmental procedures and regulations
- site layout and obstacles
- 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
- 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.

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Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=df441c6e-213d-43e3-874c-0b3f7036d851

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TLIL4059 Implement asset management 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 implement asset management systems in various contexts within the transport and logistics industry.

It includes determining management control processes; implementing existing practices, procedures and systems; and reviewing service levels.

The unit generally applies to those who lead individuals or teams and have responsibility for implementing and monitoring asset management systems.

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

Pre-requisite Unit

Not applicable.

Competency Field

L – Resource Management

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.

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1 Determine management control process	1.1 Roles and responsibilities of business units or departments are clarified to ensure effective management of assets in accordance with organisational policy and procedures
	1.2 Specific organisation reporting and monitoring standards are clarified as required and complied with
	1.3 Information systems that provide the information necessary for effective and efficient asset management for all levels within the organisation are maintained
	1.4 Regular audits are arranged, as required, to establish a continuous improvement cycle
2 Implement existing practices, procedures and systems	2.1 Assessments of current status of asset management activities within business units or departments are conducted regularly in accordance with asset management plan
	2.2 Work group/s are supported to adhere to milestones and targets
	2.3 Areas of difficulty are identified and strategies are followed to overcome identified difficulties
3 Review service levels	3.1 Current levels of service provided by asset stock are critically examined
	3.2 Areas of possible improvement in the effectiveness and efficiencies of owning and operating assets are identified in consultation with relevant personnel
	3.3 Appropriate benchmarking is undertaken to enable continuous improvement in asset management strategies and practices

Foundation Skills

Foundation skills essential to performance are explicit in the performance criteria of this unit of competency.

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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 TLIL4059A Implement asset management systems.

Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=df441c6e-213d-43e3-874c-0b3f7036d851

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Assessment Requirements for TLIL4059 Implement asset management 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 of the requirements of the elements and performance criteria on at least one occasion and include:

- applying relevant legislation and workplace procedures
- communicating and working effectively with others
- completing relevant documentation
- consulting and liaising, as required, when working with a team
- implementing, monitoring and reviewing management systems
- interpreting and following operational instructions and prioritising work
- managing a team and encouraging team participation
- operating electronic communications equipment to required protocol
- using critical analysis to determine the best approach to asset management for the organisation
- using lateral thinking to solve problems as they arise or to generate ideas.

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:

- benchmarking practices
- characteristics of different types of information systems used to provide and assist in asset management
- code of practice for working collaboratively with others particularly with those involved in inputting data into asset management systems
- detail of different approaches to asset management, including theoretical knowledge
- organisational and industry functions
- procedures for identifying equipment defects and assessing for appropriate action

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- procedures for operating electronic communications equipment
- quality management principles and procedures
- relevant sections of national and state/territory regulatory requirements and codes of practice
- requirements for completing relevant documentation including asset management reports.

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
- 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

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TLIL5055 Manage a supply chain

Modification History

Release 2. ISC Upgrade - Reference to the Trade Practice Act removed from knowledge evidence.

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 a supply chain within various contexts in the transport and logistics industry. It covers the relationships between an organisation and its supply and demand partners along the chain.

It includes implementing a demand-driven supply chain management strategy, managing the supply chain, and evaluating and improving supply chain effectiveness.

The unit generally applies to those who lead individuals or teams.

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

Pre-requisite Unit

Not applicable.

Competency Field

L – Resource Management

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 Implement	1.1 Responsibility for supply chain management within the

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	demand-driven supply chain management strategy		organisation is assigned in accordance with the strategy
		1.2	Technology and software for implementing the strategy is accessed and operationalised within the requirements of the strategy and budgetary allocation
		1.3	Policies and procedures are designed to guide business relations and operations in accordance with the strategy
		1.4	Supporting business processes are designed or re-designed to support implementation of the strategy
		1.5	Support is provided to staff, customers and supply chain to assist in implementation of the strategy
2	**Manage supply chain**	2.1	Communication and information exchange with strategic partners and suppliers is managed in accordance with the supply chain management strategy
		2.2	Collaboration with supply chain organisations is facilitated to determine demand at each level of the supply chain in accordance with the strategy
		2.3	Sales and payments are managed in accordance with supply chain and risk management strategies, and legal and ethical requirements
		2.4	Actions to build trust and foster a supply chain culture are implemented in accordance with the strategy
		2.5	Opportunities are identified to adjust policies and procedures to respond to the changing needs of customers, supply chain and the organisation
3	**Evaluate and improve supply chain effectiveness**	3.1	Demand chain management and supply chain management are monitored in accordance with the supply chain management strategy
		3.2	Effectiveness of the supply chain is reviewed with each level of the supply chain, including staff and customers, and areas are identified for improvement
		3.3	Business data and reports are used to compare outcomes, budgets, timelines and forecasts to actual performance
		3.4	Technology performance is reviewed and recommendations are made for improvements to hardware, software and/or their use, in accordance with strategy and budget
		3.5	Feedback and evaluation results are used to plan and improve

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future supply chain management 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 can be found in the Companion Volume Implementation Guide.

Unit Mapping Information

This unit replaces and is equivalent to TLIL5055A Manage a supply chain.

Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=df441c6e-213d-43e3-874c-0b3f7036d851

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Assessment Requirements for TLIL5055 Manage a supply chain

Modification History

Release 2. ISC Upgrade - Reference to the Trade Practice Act removed from knowledge evidence.

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
- developing and implementing policies
- focusing on the customer
- implementing, managing and reviewing management strategies
- implementing contingency plans
- negotiating and liaising with suppliers and relevant stakeholders, verbally and in writing
- using appropriate technology, including software
- working collaboratively with others
- working with attention to detail and thoroughness.

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:

- business terms and conditions for purchasing, tendering and contracting
- ethical behaviour
- legislation related to importing commodities
- legislation, codes of practice, national and international standards applicable Acts and contract law
- organisational policies and procedures related to supply chain management, purchasing, contracting and tendering
- procedures for operating electronic communications equipment

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- product knowledge related to goods and services required by the organisation
- requirements for completing relevant documentation
- ways to build trust and collaboration as opposed to competition.

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

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TLIP4013 Implement and monitor logistics planning and processes

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 implement and monitor logistics planning and processes undertaken in various contexts in the transport and logistics industry.

It includes planning an efficient logistics operation, developing a contingency management strategy, producing operational schedules, and monitoring and coordinating systems for logistics operations.

The unit generally applies to those who provide leadership of others individually or in teams.

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

Pre-requisite Unit

Not applicable.

Competency Field

P – Administration and Finance

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 efficient logistics	1.1 Relevant Australian and international regulations, codes and

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operations		workplace policies for logistics operations are identified
	1.2	Specifications and/or requirements for task outcomes are obtained, interpreted, clarified as required and applied to the development of a work plan
	1.3	Preliminary schedules are matched against operational capacity and capability of available transport systems, equipment and staff
	1.4	Strategies to address identified deficiencies in operational capability and availability are undertaken in accordance with workplace procedures
2 Develop contingency management strategy	2.1	Sequence of required activities is identified in accordance with company requirements
	2.2	Typical problems that may arise with logistics operations are identified and strategies for dealing with them are determined
	2.3	Contingency management strategies for identified issues/incidents are established and evaluated including reference to previous scenarios of similar nature
3 Produce operation schedules for logistics	3.1	Resources are arranged in association with relevant Australian and overseas personnel to meet the operational schedules, policy and procedures
	3.2	Australian and international regulatory requirements, codes of practice and workplace procedures are identified and accounted for in operational schedule
	3.3	Records are stored in accordance with workplace procedures
4 Monitor and coordinate systems for logistics operations	4.1	Outcomes are checked and compared with planned objectives, task instructions and specifications to ensure all requirements are met
	4.2	Non-compliance with quality standards, planned processes or regulatory requirements is identified and appropriate action is initiated to report and rectify identified problems
	4.3	Customer concerns and suggestions for service improvements are acted on in accordance with workplace procedures
	4.4	Changes in Australian and international regulations and codes of practice relevant to export logistics are monitored, identified and appropriate action is initiated to ensure ongoing compliance of export logistics processes and systems

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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 TLIP4013A Implement and monitor logistics planning and process.

Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=df441c6e-213d-43e3-874c-0b3f7036d851

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Assessment Requirements for TLIP4013 Implement and monitor logistics planning and processes

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
- completing relevant documentation
- developing and documenting contingency plans as part of the planning process
- identifying and solving problems
- leading others
- modifying activities depending on operational contingencies, risk situations and environments
- planning and organising logistics operations
- reading, interpreting and following local and international transport schedules, regulatory requirements, customer instructions, and workplace procedures and manuals
- selecting and applying appropriate technology, information and communications systems and procedures
- working collaboratively with others.

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 international regulatory, permit and licence requirements relevant to logistics
- broad principles of supply chain management
- business policies and plans including procedures for outsourcing components of operations and engaging additional resources
- coaching and mentoring approaches to support team members to share knowledge and skills

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- relevant work health and safety (WHS)/occupational health and safety (OHS) and environmental procedures and regulations
- relevant sections of national and state/territory regulatory requirements and codes of practice as they relate to the level and type of logistics operations undertaken by the enterprise
- workplace policies including issue resolution and grievance 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

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TLIR4003 Negotiate a contract

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 contract transport and logistics services in compliance with relevant regulations, standards, legal requirements, codes of practice and workplace procedures.

It includes negotiating the contract, finalising the contract negotiations, as well as completing all contract requirements with a contractor.

The unit generally applies to those with responsibility for resource coordination and allocation, and who lead individuals or teams.

Work is under general guidance on progress and outcomes. It requires discretion and judgement for self and others in planning and using resources, services and processes to achieve required 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

Not applicable.

Elements and Performance Criteria

ELEMENTS	PERFORMANCE CRITERIA
Elements describe the	Performance criteria describe the performance needed to

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essential outcomes.	demonstrate achievement of the element.
1 Negotiate contract specifics with contractor	1.1 Requirements of the contract are clearly documented and agreed to by the relevant parties
	1.2 Areas of ambiguity or concern are clarified and resolved
	1.3 Negotiations are undertaken with selected contractor for the contracting of required goods/services on a 'without prejudice' basis
	1.4 Conditions for service and/or supply of goods/services are agreed between the enterprise and the contractor including the determination of key performance indicators
	1.5 Alternative contractors are negotiated with if agreement is unable to be reached with preferred contractor
	1.6 Contract negotiations are conducted in accordance with established workplace requirements and relevant legislation
2 Complete contract negotiations	2.1 Contract documentation is drafted in accordance with relevant legislation, workplace procedures and negotiated conditions of service and supply
	2.2 Technical support in drafting contracts is accessed as required
	2.3 Contract documentation is signed and exchanged between relevant parties
3 Complete enterprise contract requirements	3.1 Documentation systems are established to ensure traceability of orders and financial transactions
	3.2 Workplace systems that require interaction with contractors are identified and actioned
	3.3 Quality assurance procedures for supplied goods/services are initiated
	3.4 Contract and ancillary documentation is completed and stored as required, in accordance with workplace procedures and regulatory requirements

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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 TLIR4003A Negotiate a contract.

Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=df441c6e-213d-43e3-874c-0b3f7036d851

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Assessment Requirements for TLIR4003 Negotiate a contract

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 negotiating a contract
- applying relevant legislation and workplace procedures
- communicating and working effectively with others when negotiating a contract
- completing documentation related to negotiating a contract
- modifying activities to cater for variations in workplace contexts and environment
- operating electronic communications equipment to required protocol
- planning and monitoring work activities in terms of schedule
- prioritising work and coordinating self and others in relation to workplace activities
- providing leadership and working collaboratively with others when negotiating a contract
- reading, interpreting and following instructions, procedures and regulatory requirements relevant to negotiating a contract
- selecting and applying appropriate technology and information systems.

Knowledge Evidence

Evidence required to demonstrate competence in this unit must be relevant to and satisfy all of the requirements of the elements, performance criteria and the range of conditions on at least one occasion and include:

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- applying precautions and required action to minimise, control or eliminate risks that may exist when negotiating a contract
- applying relevant legislation and workplace procedures
- communicating and working effectively with others when negotiating a contract
- completing documentation related to negotiating a contract
- modifying activities to cater for variations in workplace contexts and environment
- operating electronic communications equipment to required protocol
- planning and monitoring work activities in terms of schedule
- prioritising work and coordinating self and others in relation to workplace activities
- providing leadership and working collaboratively with others when negotiating a contract
- reading, interpreting and following instructions, procedures and regulatory requirements relevant to negotiating a contract
- selecting and applying appropriate technology and information systems.

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

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TLIR4008 Implement and supervise stocktaking 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 implement and supervise stocktaking procedures in various contexts within the transport and logistics industry.

It includes monitoring and maintaining stock records, implementing stocktaking and stock rotation processes, and identifying stock losses.

The unit generally applies to those who lead individuals or teams.

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

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 Maintain stock records	1.1 Stock levels and records are monitored and maintained at required levels
	1.2 Stock reorder cycles are monitored, maintained and adjusted as required

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	1.3 Stock storage and movement records are maintained in accordance with organisational policy
2 Implement stocktaking and stock rotation processes	2.1 Relevant policies and procedures for stocktaking and cyclical counts are interpreted and explained to team members
	2.2 Stocktaking tasks are allocated to individual team members
	2.3 Team members are provided with clear directions for the performance of each task and supervised
	2.4 Stocktaking and stock rotation procedures are implemented
3 Identify stock losses	3.1 Losses are accurately identified, recorded and assessed against potential loss forecast on a regular basis
	3.2 Avoidable losses are identified and potential reasons are established
	3.3 Possible solutions to avoidable losses are recommended and implemented
	3.4 Accurate reports on stocktake data, including discrepancies, are produced for management

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.

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Unit Mapping Information

This unit replaces and is equivalent to TLIR4008A Implement and supervise stocktaking procedures.

Links

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Assessment Requirements for TLIR4008 Implement and supervise stocktaking 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:

- applying relevant legislation and workplace procedures when undertaking stocktake
- communicating and working effectively with others
- completing relevant documentation
- implementing contingency plans
- monitoring work activities in terms of planned schedule
- operating equipment in accordance with standard operating procedures
- reading, interpreting and following relevant instructions, procedures and signs
- reporting and/or rectifying identified problems, faults or malfunctions promptly, in accordance with regulatory 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:

- procedures for identifying and recording discrepancies and/or damage
- procedures for operating electronic communications equipment
- relevant sections of national, state/territory legislative and regulatory requirements, and codes of practice
- requirements for completing relevant documentation
- stock control
- stock replenishment/reorder procedures.

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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
- 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

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TLIR4009 Implement purchasing 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 implement purchasing systems in various contexts within the transport and logistics industry.

It includes identifying purchasing requirements, sourcing purchases, checking costings and arranging the purchase of materials.

The unit generally applies to those who lead individuals or teams.

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

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 Identify purchasing requirements	1.1 Purchasing requirements are identified from orders and instructions in accordance with workplace procedures
	1.2 Quantities, quality of goods, price limitations and delivery requirements are determined or confirmed in consultation with

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	appropriate personnel
2 Source purchase	2.1 Source/s of materials are identified from workplace preferred supplier lists or through networks and knowledge of local and/or overseas suppliers
	2.2 Supplier/vendor is advised of requirements and specifications in accordance with site requirements
	2.3 Availability of supply is confirmed
	2.4 Difficulties in supply are reported in accordance with workplace procedures
3 Check costings	3.1 Alternative suppliers are contacted to check different costings
	3.2 Actual costs are compared to predicted costs
	3.3 Recommendations regarding alternative suppliers are communicated to appropriate personnel in accordance with workplace procedures
	3.4 All records/reports are maintained in accordance with site requirements
4 Purchase materials	4.1 Capacity of supplier to meet price, quality and delivery expectations is confirmed
	4.2 Order is placed with supplier and delivery schedules are confirmed
	4.3 Appropriate orders and invoices are exchanged in accordance with workplace procedures
	4.4 Materials are checked/inspected on receipt in accordance with site requirements in accordance with workplace procedures

Foundation Skills

Foundation skills essential to performance are explicit in the performance criteria of this unit of competency.

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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 TLIR4009A Implement purchasing systems.

Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=df441c6e-213d-43e3-874c-0b3f7036d851

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Assessment Requirements for TLIR4009 Implement purchasing 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 of the requirements of the elements and performance criteria on at least one occasion and include:

- applying relevant legislation and workplace procedures
- communicating and working effectively with others
- completing relevant documentation including reports and documenting discrepancies
- identifying, sourcing and procuring purchasing requirements in accordance with workplace procedures
- interpreting and following operational instructions and prioritising work
- modifying activities depending on operational contingencies, risk situations and environments
- operating electronic communications equipment to required protocol
- reading and interpreting relevant instructions, procedures, information and signs
- reporting and/or rectifying identified problems, errors in data input, collection or measurement promptly, particularly in relation to cost, order quantity or quality.

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:

- different types of purchasing systems, their use and applications
- enterprise purchase/sales records system
- procedures for operating electronic communications equipment
- relevant sections of national, state/territory legislative and regulatory requirements, and codes of practice, particularly those relating to trade practices and privacy of information
- requirements for completing relevant documentation, particularly in relation to systems implementation
- steps involved in planning work activities
- typical problems encountered in implementing purchasing systems and possible solutions.

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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
- 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

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TLIR4010 Plan purchasing

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 plan purchasing in various contexts in the transport and logistics industry.

It includes preparing invitations to offer, identifying suppliers, issuing invitations to offer and preparing purchase recommendations.

The unit generally applies to those who lead individuals or teams.

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

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 Prepare invitations to	1.1 Specifications for goods and services to be purchased are obtained from relevant personnel and are clarified as

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offer	required
	1.2 Purchasing methods most appropriate to particular purchases are selected
	1.3 Invitations to offer are prepared
	1.4 Approval of invitations to offer is obtained
2 Identify suppliers	2.1 Organisational records are reviewed for potential suppliers
	2.2 Sources of supply are identified
	2.3 Invitations are made to suppliers
	2.4 Sources of supply are evaluated against purchasing strategy requirements
3 Issue invitations to offer	3.1 Invitations to offer are distributed
	3.2 Briefings are conducted as required
	3.3 Clarification of issues arising is made with suppliers in accordance with purchasing strategies
4 Prepare recommendations to purchase	4.1 Offer documents are received from suppliers
	4.2 Offer documents are assessed against purchasing strategy requirements
	4.3 Further information is sought from suppliers as required
	4.4 Specialist expertise is obtained to assist with evaluation as required
	4.5 Offers are evaluated against purchasing strategy requirements
	4.6 Shortlists of suppliers who have made offers and who meet purchasing criteria are prepared
	4.7 Preferred offers are selected
	4.8 Recommendations about preferred offers are made for approval by relevant personnel
	4.9 Approval is obtained for recommended offers

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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 TLIR4010A Plan purchasing.

Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=df441c6e-213d-43e3-874c-0b3f7036d851

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Assessment Requirements for TLIR4010 Plan purchasing

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 and using software appropriately
- applying precautions and required action to minimise, control or eliminate identified hazards
- applying relevant legislation and workplace procedures
- 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
- operating electronic communications equipment to required protocol
- reading, interpreting and following relevant instructions, procedures and signs
- working collaboratively with others
- working systematically with required attention to detail.

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:

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- organisational purchasing strategy
- procedures for operating electronic communications equipment
- product knowledge about the goods and services being supplied
- relevant legislation, codes of practice and national standards related to procurement, for example Trade Practices Act, contract law, sale of goods legislation, consumer protection legislation and legislation related to the import of goods and services, where relevant
- requirements for completing relevant documentation
- steps involved in planning work activities.

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

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TLIR5005 Manage a contract

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 a contract in various contexts within the transport and logistics industry.

It includes confirming contract requirements, establishing a contract management system, and monitoring and evaluating the contract.

The unit generally applies to those who lead individuals or teams.

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

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 Confirm contract requirements	1.1 Relevant parties are consulted to identify their contract requirements
	1.2 Special provisions needed are identified

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	1.3 Need for specialist legal advice is identified and advice is obtained as required
	1.4 Key performance outcomes and measures are specified for inclusion in contract
	1.5 Relationship with contractor is established in accordance with organisational policies and procedures
2 Establish contract management system	2.1 Effective communication/information strategies are established
	2.2 Dispute and complaint system is established in accordance with organisational policies and procedures
	2.3 Consistent and accurate records of contract progress are maintained
	2.4 Management strategy is documented, monitored for effectiveness and adapted as required during the life of the contract
3 Monitor contract	3.1 Regular inspections of contract services are undertaken to ensure compliance with specifications
	3.2 Relationship with contractor is managed in accordance with organisational policies and procedures
	3.3 Regular planned progress meetings are conducted and documented between all contract personnel to ensure problems are identified, resolved early and documented
	3.4 Variations between specified scope of services and contract are identified and documented, and relevant personnel are notified without delay
	3.5 Contract costs are monitored on a regular basis to ensure service is carried out within financial and contractual requirements
	3.6 Payments for contract services are authorised in accordance with contract conditions and organisational contract administrative system
4 Evaluate contract	4.1 Evaluation of contract performance is undertaken relative to planned performance measures and in consultation with stakeholders and suppliers
	4.2 Conclusions are detailed against agreed criteria and a complete picture of supplier performance, organisational procurement processes and value for money is provided

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4.3 Evaluation is documented in accordance with organisational requirements to assist improvement in future procurement activities

4.4 Relevant parties are advised of evaluation outcomes in a timely manner in accordance with organisational guidelines

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 TLIR5005A Manage a contract.

Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=df441c6e-213d-43e3-874c-0b3f7036d851

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Assessment Requirements for TLIR5005 Manage a contract

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
- communicating and communicating effectively with others when managing a contract
- completing documentation related to contract management, including reports relevant to deliverables of stages and completion
- modifying activities depending on operational contingencies, risk situations and environments, and negotiating modifications with the contractor or agent as required
- monitoring and prioritising work activities in terms of planned schedule
- negotiating solutions to problems as they arise during the contract timeframe
- operating electronic communications equipment to required protocol
- reading and interpreting instructions, procedures, information and the contract itself.

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:

- confidentiality issues in relation to contracted services such as intellectual property
- disposals considerations
- equal employment opportunity and anti-discrimination law
- ethical issues
- financial and accounting issues relevant to the contract
- financial management of a contract including negotiating price variations during the contract
- organisational purchasing policies and practices
- performance management in terms of identifying and managing contract compliance
- procedures for acceptance of goods or services

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- procedures for operating electronic communications equipment
- procurement approval processes
- procurement negotiation practices, including legal aspects
- relevant sections of national and state/territory regulatory requirements and codes of practice related to procurement, including contract law, trade practices law and commercial law to a level sufficient to be able to manage the performance of a contractor
- requirements for completing relevant documentation.

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

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TLIR5006 Develop, implement and review purchasing strategies

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 develop, implement and review an organisation's purchasing strategies in various contexts within the transport and logistics industry.

It includes determining, developing, implementing and evaluating purchasing objectives and strategies, and implementing improvements.

The unit generally applies to those who lead individuals or teams.

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

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 Determine purchasing objectives	1.1 Industry benchmarks for purchasing are researched and analysed for organisational suitability
	1.2 Organisation's purchasing data and information are

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	analysed
	1.3 Consultations are undertaken with relevant stakeholders and personnel to inform development of purchasing objectives
	1.4 Purchasing objectives are drafted in line with organisational goals
	1.5 Approval is gained from relevant personnel for purchasing objectives
2 Develop purchasing strategies	2.1 Purchasing strategies are developed, taking into account legal requirements and purchasing objectives
	2.2 Five Rights are included in purchasing criteria
	2.3 Human resources, financial and other plans are developed to support the implementation of purchasing strategies
	2.4 Approval is gained to implement plans and purchasing strategies
	2.5 Changes resulting from approval processes are made to plans and strategies, as required
3 Implement purchasing strategies	3.1 Purchasing strategies are communicated to relevant personnel and stakeholders
	3.2 Resources needed to implement purchasing strategies are identified and accessed
	3.3 Support is provided to implement purchasing strategies
	3.4 Implementation of purchasing strategies by the organisation is monitored
	3.5 Problems and issues arising during implementation are identified and addressed
	3.6 Reports are provided to relevant personnel and stakeholders on implementation of purchasing strategies
4 Evaluate purchasing strategies and implement improvements	4.1 Implementation of purchasing strategies is reviewed
	4.2 Improvements to purchasing strategies are identified

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from review process

4.3 Approval is gained to implement improvements to purchasing strategies

4.4 Improvements are communicated to relevant stakeholders and support is provided to implement improvements

4.5 Implementation of improvements is monitored and reviewed to determine effectiveness of improvements

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 TLIR5006A Develop, implement and review purchasing strategies.

Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=df441c6e-213d-43e3-874c-0b3f7036d851

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Assessment Requirements for TLIR5006 Develop, implement and review purchasing strategies

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
- communicating effectively with others when developing, implementing and reviewing purchasing strategies, including consulting and negotiating with stakeholders, writing policies and procedures, and supporting staff to implement strategies
- developing human resources, financial and other plans when developing, implementing and reviewing purchasing strategies
- identifying and addressing problems relating to developing, implementing and reviewing purchasing strategies
- monitoring, reviewing and evaluating purchasing strategies
- planning and prioritising work activities, and researching and analysing data
- preparing reports appropriate to developing, implementing and reviewing purchasing strategies
- reading and interpreting instructions, procedures and information relevant to work activities.

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:

- concept of the ‘Five Rights’:
  - right price
  - right quality
  - right quantity
  - right supplier
  - right time

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- information about industry benchmarks for purchasing, including information from peak bodies, industry associations and Australian standards
- organisational policies and procedures related to purchasing; contracting and tendering; business terms and conditions for purchasing, tendering and contracting; and ethical behaviour
- product knowledge related to goods and services required by the organisation
- relevant legislation, codes of practice, national and international standards, such as Trade Practices Act, contract law, sale of goods legislation, and legislation related to the import of goods and services.

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

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TLIX5015 Establish supply chains

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 establish and develop a strategy and model for supply chain management in accordance with relevant organisational policy and procedures.

Establishing and developing supply chains in the materiel system are integral supports to the stated capability requirement.

This unit was developed for materiel logisticians working within materiel logistics but is applicable to individuals in broader logistics roles.

Typically these individuals work independently or as part of a team under direct and/or indirect supervision, use discretion and judgement, and take responsibility for the quality of their outputs. All activities are carried out in accordance with relevant organisational policy and procedures.

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

Not applicable.

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Elements and Performance Criteria

Elements describe the essential outcomes.	Performance criteria describe the performance needed to demonstrate achievement of the element.
1 Determine supply chain requirements	1.1 Supply chain components are identified and their links and inter-relationships are analysed in accordance with organisational policy and procedures
	1.2 Communication, data access, information sharing and technology requirements for an integrated supply chain are determined
	1.3 Requirements for collaborative planning, forecasting and tailored supply chains are identified
	1.4 Supply chain requirements are documented in accordance with organisational policy and procedures
2 Determine supply chain management strategy	2.1 Outsourcing, choice of suppliers and partners, reshaping contractual relationships and the performance of the entire supply chain rather than individual supply chain segments are covered by strategies
	2.2 Matching supplier capability to customer requirements including strategies to optimise electronic information sharing and inventory risk management, and to minimise environmental impacts is included in strategies
	2.3 Strategies to build effective customer supplier relationships are identified
	2.4 Customer satisfaction requirements across the supply chain continuum are included in performance management strategies
	2.5 Strategic alliances, electronic business and electronic data interchange are included in supply chain management strategies
	2.6 Legal, ethical, environmental and security issues relating to supply chain management are addressed in supply chain management strategies
	2.7 Integration of supply chain processes into existing business processes is included in strategy
3 Develop supply chain management	3.1 Supply chain management options are researched, and strengths and weaknesses of each option are identified

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model	3.2 Supply chain management models are investigated and their requirements are analysed and compared with supply chain capability and culture 3.3 Model for supply chain management is developed that meets organisational needs including information flow, collaborative planning and forecasting, in accordance with the organisation's supply chain management strategy 3.4 Supply chain management model is developed to support reduced inventory footprints, operating costs, faster cycle times and greater customer satisfaction rates

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 TLIX5015A Establish supply chains.

Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=df441c6e-213d-43e3-874c-0b3f7036d851

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Assessment Requirements for TLIX5015 Establish supply chains

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:

- adhering to relevant work health and safety (WHS)/occupational health and safety (OHS) requirements
- analysing and evaluating information, and determining how it may be impacted by the supply chain or how the supply chain might be impacted by the information being considered
- analysing supply chain requirements
- applying logistics and project management knowledge when establishing supply chains
- communicating with stakeholders
- consulting and negotiating with internal and external stakeholders and resolving potential areas of conflict or concern to ensure overall objectives are achieved
- displaying resilience by continuing to move forward despite criticism or setbacks
- identifying relevant information from integrated logistics support program and materiel sustainment program that is relevant to establishing supply chains
- identifying relationships between organisational goals and recognising how own work contributes to achieving these goals
- identifying requirements for plans and adjusting them as necessary to ensure effective and efficient performance
- initiating and efficiently monitoring processes
- initiating remedial action required
- preparing and providing relevant reports and documentation
- sourcing information on best practice approaches adopted in public and private sectors, showing insight into how industry operates and business drivers that influence industry with their dealings
- undertaking performance measurement to enable objectives to be measured against defined parameters
- using organisational strategic objectives to identify long-term factors and external considerations for establishing a supply chain.

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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:

- codification and cataloguing processes
- industrial base capability
- integrated logistics support
- international agreements
- interoperability
- legislative and regulatory environment, including relevant environmental and sustainability issues
- logistics governance
- logistics support analysis principles and processes
- materiel sustainment
- organisational policy and procedures
- organisational role relevant to supply chains
- performance measurement
- planning processes
- product knowledge related to systems and/or equipment in service in the organisation
- safety, legislative and statutory requirements, including relevant environmental and sustainability issues
- supply chain concepts.

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
- relevant and appropriate materials, tools, equipment and personal protective equipment

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currently used in industry
- applicable documentation including workplace procedures, regulations, codes of practice and operation manuals
- computer and relevant software
- legislation, guidelines, procedures and protocols relating to materiel logistics
- supply chain plans.

Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=df441c6e-213d-43e3-874c-0b3f7036d851

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UEGNSG615 Fill LPG cylinders

Modification History

Release 1. This is the first release of this unit of competency in the UEG Gas Industry Training Package.

Application

This unit involves the skills and knowledge required to inspect and fill liquefied petroleum gas (LPG) cylinders, and complete work and relevant documentation.

It includes carrying out the work using appropriate materials, tools and equipment in accordance with relevant legislation, codes of practice, regulations and workplace procedures.

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

Pre-requisite Unit

Not applicable.

Competency Field

Gaseous fuel Vessels

Unit Sector

Gas Industry

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 fill LPG cylinders	**1.1** Job requirements and workplace procedures for the work are discussed with relevant person/s to confirm the work schedule
	1.2 Work health and safety (WHS)/occupational health and safety (OHS), environmental and sustainable energy measures and workplace policies and procedures for the

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		work are obtained and applied
	1.3	Recommendations to assist with the filling of gas cylinders are made to others involved in the work in accordance with workplace procedures
	1.4	Hazards are identified, WHS/OHS risks assessed and control measures prioritised, implemented and monitored in accordance with workplace procedures
	1.5	Resources, including equipment, tools and personal protective equipment (PPE), required for the job are obtained and checked for correct operation and safety in accordance with workplace procedures and manufacturer instructions
	1.6	Responsibilities for first aid, emergencies and other related work safety procedures for an incident at the work site are checked and confirmed with relevant person/s to ensure safety measures are followed
	1.7	Client issues are referred to relevant persons in accordance with industry and community, industry standards and workplace procedures
	1.8	Work site is prepared in accordance with job instructions, work schedule and workplace procedures to minimise risk and damage to property, commerce and individuals
2 Inspect and fill LPG cylinders	**2.1**	WHS/OHS policies, procedures and safe work practices are followed to eliminate or minimise incidents and hazards
	2.2	Hazardous activities associated with filling LPG cylinders are conducted in accordance with job instructions, safety requirements and workplace procedures
	2.3	Cylinders are inspected for leaks and soundness in accordance with job instructions, industry standards, regulations and workplace procedures
	2.4	Cylinders with defects, including leaks and damage, are identified, marked and quarantined and hazards and WHS/OHS risks are reported to authorised person/s for directions in accordance with workplace procedures
	2.5	Filling of gas cylinders is carried out in accordance with job instructions, industry standards, regulations and

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		workplace procedures
	2.6	Problems associated with the filling of gas cylinders are dealt with by using problem-solving techniques in accordance with workplace procedures, industry standards and regulations
	2.7	Unplanned situations are responded to in accordance with workplace procedures, in a manner that minimises risk to personnel and equipment
	2.8	Quality and safety checks of the work are undertaken in accordance with job instructions, industry standards and workplace procedures
3 Complete work and relevant documentation	**3.1**	Appropriate manual handing techniques are applied when moving full cylinders to designated storage areas or onto vehicles
	3.2	Accidents and incidents are actioned, as required, and reported to authorised person/s in accordance with workplace procedures
	3.3	Work site is cleaned up and made safe in accordance with job instructions and workplace procedures
	3.4	Tools, equipment and any surplus resources and materials are cleaned, checked and returned to storage in accordance with workplace procedures
	3.5	Relevant person/s are notified of work completion in accordance with workplace procedures
	3.6	Work completion records, report forms and data sheets are completed accurately in accordance with job instructions and 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 may be found in the UEG Gas Industry Training Package Companion

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Volume Implementation Guide.

inspecting and filling cylinders must include one (1) of the following methods at a cylinder filling installation compliant with industry standards:	• by weight using scales • by decanting • by dispenser pump

Unit Mapping Information

This unit replaces and is equivalent to UEGNSG615A Fill LPG cylinders.

Links

Companion Volume Implementation Guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=6a6c032e-ffcb-4f3d-8063-415efbd261e8

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Assessment Requirements for UEGNSG615 Fill LPG cylinders

Modification History

Release 1. This is the first release of this unit of competency in the UEG Gas Industry 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, performance criteria and range of conditions on at least two separate occasions and include:

- applying environmental and sustainable energy principles and practices
- applying problem-solving techniques
- applying relevant industry standards, guidelines, codes of practice and regulations
- applying relevant work health and safety (WHS)/occupational health and safety (OHS) requirements, including:
  - hazard identification and reporting
  - implementing risk control measures
  - applying safe manual handling techniques
  - selecting and using relevant personal protective equipment (PPE)
  - undertaking hazardous activities in a safe manner
- checking cylinders for leaks and damage
- communicating effectively with relevant person/s
- completing work and relevant documentation
- confirming and following schedule of work and job requirements
- dealing with unplanned events/situations in accordance with workplace procedures, in a manner that minimises risk to personnel and equipment
- filling liquified petroleum gas (LPG) cylinders
- following emergency procedures for accidents and incidents
- following manufacturer instructions
- following workplace procedures
- maintaining a clean and safe work site
- marking and quarantining damaged cylinders
- performing quality and safety checks
- preparing to fill LPG cylinders
- preparing worksite to minimise risk and damage to property, commerce and individuals
- referring client issues
- selecting and operating correct tools and equipment
- working within agreed timeframes or conditions.

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Knowledge Evidence

Evidence required to demonstrate competence in this unit must be relevant to and satisfy all of the requirements of the elements, performance criteria and range of conditions and include knowledge of:

- accidents and incidents associated with filling gas cylinders
- client issues
- environmental and sustainable energy principles and practices
- filling LPG cylinders, including:
  - requirements, methods, procedures and precautions
  - tools and equipment
  - handling
  - leak testing
- LPG cylinders, including:
  - properties of LPG
  - types, construction, size, valves and labelling
  - material safety data sheets/safety data sheets (MSDS/SDS)
- problem-solving techniques
- PPE, including:
  - types, application, checking, maintenance and storage
- quality and safety checks
- relevant manufacturer specifications
- relevant materials, tools, equipment and devices
- relevant safe work method statements (SWMS)/job safety assessments or risk mitigation processes
- relevant industry standards, legislation, guidelines, codes of practice and regulations
- relevant workplace documentation
- relevant workplace policies and procedures
- relevant WHS/OHS policies and procedures, including:
  - hazard identification, risk assessment and control
  - safe manual handling techniques
- reporting requirements
- resources and materials required for the work
- site preparation, work schedules, safety plans and job requirements
- storage requirements of dangerous goods
- workplace quality 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

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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 other simulations
- relevant and appropriate materials, tools, equipment and PPE currently used in industry
- applicable documentation, including workplace procedures, 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=6a6c032e-ffcb-4f3d-8063-415efbd261e8

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MSM Manufacturing Training Package

Modification History

Version	Release date	Comments
3.0	XXX September, 2018	**Release 3.0 of the MSM Manufacturing Training Package supersedes and is equivalent to MSM Training Package** 1 new qualification, 36 new units and 6 imported units added to MSM Training Package. All components remain equivalent. Refer to Companion Volume Implementation Guide for further information.

Credit Arrangements

At the time of endorsement of this Training Package no national credit arrangements exist.

Links

Companion Volume Implementation Guides are available at VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=d1287d36-dff4-4e9f-ad2c-9d6270054027

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MSMSS00001 Licence to operate a standard boiler

Modification History

Release 1. Supersedes and is equivalent to MSASS00005 Licence to operate a standard boiler

Description

Not applicable.

Pathways Information

This Skill Set can be a stand-alone licensing outcome or the unit it comprises credited in any qualification where it is included as core or an elective option.

Licensing/Regulatory Information

Meets national High Risk Work Licensing for standard boiler operation

Skill Set Requirements

MSMBLIC001 Licence to operate a standard boiler

Target Group

The target group is boiler operators operating standard boilers that require occupational licensing by a State and Territory OHS regulator.

Suggested words for Statement of Attainment

This unit of competency meets the minimum industry requirements for high risk work licensing of standard boiler operation.

Custom Content Section

Not applicable.

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MSMSS00002 Licence to operate an advanced boiler

Modification History

Release 1. Supersedes and is equivalent to MSASS00006 Licence to operate an advanced boiler

Description

Not applicable.

Pathways Information

This Skill Set can be a stand-alone licensing outcome or the unit it comprises credited in any qualification where it is included as core or an elective option.

Licensing/Regulatory Information

Meets national High Risk Work Licensing for advanced boiler operation

Skill Set Requirements

MSMBLIC002 Licence to operate an advanced boiler

Target Group

The target group is boiler operators operating advanced boilers that require occupational licensing by a State and Territory OHS regulator.

Suggested words for Statement of Attainment

This unit of competency meets the minimum industry requirements for high risk work licensing of advanced boiler operation.

Custom Content Section

Not applicable.

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MSMSS00003 Use high pressure water jetting equipment

Modification History

Release 1. Supersedes and is equivalent to MSASS00002 High pressure water jetting assistant

Description

Not applicable.

Pathways Information

These competencies can provide credit towards relevant qualifications in the MSM Manufacturing Training Package

Licensing/Regulatory Information

Not applicable.

Skill Set Requirements

MSMWJ201	Use high pressure water jetting equipment
MSMWHS110	Follow emergency response procedures
MSMWHS200	Work safely
MSMPER200	Work in accordance with an issued permit

Target Group

Members of the water jetting team who are not competent to operate independently need to have basic competencies before working under supervision. This not only involves technical competence in high pressure water jetting but also requires safe operation within the worksite which may not be familiar to the operator.

Suggested words for Statement of Attainment

These competencies from the MSM Manufacturing and other Training Packages meet the minimum industry requirements for a high pressure water jetting assistant.

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MSMSS00004 Operate a high pressure water jetting system

Modification History

Release 1. Supersedes and is equivalent to MSASS00003 High pressure water jetting operator

Description

Not applicable.

Pathways Information

These competencies can provide credit towards relevant qualifications in the MSM Manufacturing Training Package

Licensing/Regulatory Information

Not applicable.

Skill Set Requirements

MEM09002B	Interpret technical drawing
MSMPER200	Work in accordance with an issued permit
MSMWHS110	Follow emergency response procedures
MSMWHS200	Work safely
MSMWJ301	Operate a high pressure water jetting system

Target Group

At least one member of the water jetting team needs to be competent to operate independently. This not only involves technical competence in high pressure water jetting but also requires safe operation within the worksite which may not be familiar to the operator.

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Suggested words for Statement of Attainment

These competencies from the MSM Manufacturing and other Training Packages meet the minimum industry requirements for an independent high pressure water jetting operator.

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MSMSS00005 Operate a drain cleaning system

Modification History

Release 2.0 – Skill set updated to include MEM09002B Interpret technical drawing.

Release 1.0 New Skill Set

Description

Not applicable.

Pathways Information

These competencies can provide credit towards relevant qualifications in the MSM Manufacturing Training Package

Licensing/Regulatory Information

Not applicable.

Skill Set Requirements

MEM09002B	Interpret technical drawing
MSMPER200	Work in accordance with an issued permit
MSMWHS110	Follow emergency response procedures
MSMWHS200	Work safely
MSMWJ302	Operate a drain cleaning system

Target Group

At least one member of the drain cleaning team needs to be competent to operate independently. This not only involves technical competence in operating drain cleaning systems but also requires safe operation within the worksite which may not be familiar to the operator.

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Suggested words for Statement of Attainment

These competencies from the MSM Manufacturing Training Package meet the minimum industry requirements for an independent operator of drain cleaning systems.

Custom Content Section

Not applicable.

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MSMSS00006 Operate a vacuum loading system

Modification History

Release 2.0 – Skill set updated, MEM09002B Interpret technical drawing removed from skill set.

Release 1.0 New Skill Set

Description

Not applicable.

Pathways Information

These competencies can provide credit towards relevant qualifications in the MSM Manufacturing Training Package

Licensing/Regulatory Information

Not applicable.

Skill Set Requirements

MSMWJ303	Operate a vacuum loading system
MSMWHS110	Follow emergency response procedures
MSMWHS200	Work safely
MSMPER200	Work in accordance with an issued permit

Target Group

At least one member of the vacuum loading team needs to be competent to operate independently. This not only involves technical competence in operating vacuum loading systems but also requires safe operation within the worksite which may not be familiar to the operator.

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Suggested words for Statement of Attainment

These competencies from the MSM Manufacturing Training Package meet the minimum industry requirements for an independent operator of vacuum loading systems.

Custom Content Section

Not applicable.

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MSMSS00007 Trade Measurement Inspection

Modification History

Release 2. Correction to unit code listed in Skill Set. Equivalent.

Release 1. Replaces PSPSS00032 Trade Measurement Inspection Skill Set. Not equivalent.

Description

This Skill Set provides an introduction to trade measurement.

Pathways Information

These units from the MSM Manufacturing Training Package provide an introduction to the work of a trade measurement inspector and are likely to be undertaken during the early phase of inspector training, prior to commencing the statutory qualification PSP40516 Certificate IV in Trade Measurement.

Licensing/Regulatory Information

Not applicable.

Skill Set Requirements

MSMTMINS301	Inspect a range of simple measures
MSMTMINS302	Inspect a range of simple measuring instruments
MSMTMREF301	Use and maintain reference standards
MSMTMVER403	Verify Inspectors' Class reference standards

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Target Group

This skill set is for those commencing a career as a trade measurement inspector. It provides the skills and knowledge required to undertake inspections of simple measures and simple measuring instruments used for trade and the verification of Inspectors' Class reference standards. Examples of these instruments include length measures, alcoholic beverage measures, lubricating oil measures, graduated measures, trade masses in the range 1mg to 20kg, beverage measuring instruments, protein measuring instruments, length measuring instruments, area measuring instruments, dimensional measuring instruments, vehicle tanks and milk tanks as well as the auxiliary devices point of sale systems and control systems for liquid-measuring systems (consoles). Examples of Inspectors' Class reference standards are masses, measures of length (rigid and flexible), and volume measures, such as those used to test beverage or fuel dispensers.

Suggested words for Statement of Attainment

These units are taken from MSM Manufacturing Training Package and meet the competency requirements of the National Measurement Institute for an Assistant Trade Measurement Officer.

Custom Content Section

Not applicable.

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MSMSS00008 Trade Measurement Verification (Complex Measuring Instrument)

Modification History

Release 1. Supersedes and is equivalent to MSASS00007 Trade Measurement Verification (Complex Measuring Instrument)

Description

This Skill Set provides the units required to work under a servicing licence to verify complex measuring instruments used in trade measurement.

Pathways Information

These units can provide credit towards qualifications within the Manufacturing Training Package. If verifiers seek employment as trade measurement inspectors, these competencies may provide recognition towards the new Diploma of Trade Measurement.

Licensing/Regulatory Information

This Skill Set reflects the minimum requirements for licensing. However, the regulator or individual traders may impose additional requirements before a verifier can start work on some sites. Entrants to this Skill Set should have sufficient workplace skills in OHS, communication and teamwork that provide underpinning competency to acquire and apply the Skill Set.

Skill Set Requirements

MSMTMVER501	Verify complex measuring instruments
MSMTMREF301	Use and maintain reference standards

Target Group

This Skill Set is appropriate for experienced personnel such as fitters, mechanics, instrument manufacturers or importers and software developers who wish to work under a servicing licence to verify complex measuring instruments used in trade measurement. Examples of complex measuring instruments include, LPG dispensers, LPG bulk flowmetering systems, flowmetering systems tested using master meter or gravimetric methods, automatic rail weighbridges, continuous totalising automatic weighing instruments (belt weighers) and totalising hopper weighing instruments.

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Suggested words for Statement of Attainment

These units are taken from the Manufacturing Training Package and provide competencies that meet the minimum requirements for a licensed verifier of a complex measuring instrument

Custom Content Section

Not applicable.

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MSMSS00009 Trade Measurement Verification (Limited Weighing Instrument)

Modification History

Release 1. Supersedes and is equivalent to MSASS00008 Trade Measurement Verification (Limited Weighing Instrument)

Description

Not applicable.

Pathways Information

These units can provide credit towards qualifications within the Manufacturing Training Package. If verifiers seek employment as trade measurement inspectors, these competencies may provide recognition towards the relevant Certificates IV in the PSP Public Service Training Package.

Licensing/Regulatory Information

This Skill Set reflects the minimum requirements for licensing. However, the regulator or individual traders may impose additional requirements before a verifier can start work on some sites.

Skill Set Requirements

MSMTMVER401	Verify weighing instruments
MSMTMREF301	Use and maintain reference standards

Target Group

This Skill Set is appropriate for experienced personnel such as fitters, mechanics, instrument manufacturers or importers and software developers who wish to work under a servicing licence to verify limited weighing instruments used in trade measurement. Examples of limited weighing instruments include, non-automatic weighing machines tested without substitution loads, automatic Class Y(a) Catchweighers and automatic Class Y(b) Catchweighers.

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Suggested words for Statement of Attainment

These units are taken from the Manufacturing Training Package and provide competencies that meet the minimum requirements for licensing as a verifier of a limited weighing instrument.

Custom Content Section

Not applicable.

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MSMSS00010 Trade Measurement Verification (Liquid Measuring Instrument Using Volume Measures)

Modification History

Release 1. Supersedes and is equivalent to MSASS00009 Trade Measurement Verification (Liquid Measuring Instrument Using Volume Measures)

Description

This Skill Set provided the units required to work under a servicing license to verify liquid measuring instruments using volume measures.

Pathways Information

These units can provide credit towards qualifications within the Manufacturing Training Package. If verifiers seek employment as trade measurement inspectors, these competencies may provide recognition towards the relevant Certificates IV in the PSP Public Service Training Package.

Licensing/Regulatory Information

This Skill Set reflects the minimum requirements for licensing. However, the regulator or individual traders may impose additional requirements before a verifier can start work on some sites.

Skill Set Requirements

MSMTMVER402	Verify liquid measuring instruments using volume measures
MSMTMREF301	Use and maintain reference standards

Target Group

This Skill Set is appropriate for experienced personnel such as fitters, mechanics, instrument manufacturers or importers and software developers who wish to work under a servicing licence to verify liquid measuring instruments used in trade measurement. Examples of liquid measuring instruments using volume measures include, fuel dispensers other than LPG dispensers, bulk flowmetering systems for liquid hydrocarbons other than LPG and milk flowmeters.

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Suggested words for Statement of Attainment

These units are taken from the Manufacturing Training Package and provide competencies that meet the minimum requirements for licensing as a verifier of a liquid measuring instrument using volume measures.

Custom Content Section

Not applicable.

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MSMSS00011 Trade Measurement Verification (Simple Measuring Instrument)

Modification History

Release 1. Supersedes and is equivalent to MSASS00010 Trade Measurement Verification (Simple Measuring Instrument)

Description

This Skill Set provided the units required to work under a servicing license to verify a simple measuring instrument.

Pathways Information

These units can provide credit towards qualifications within the Manufacturing Training Package. If verifiers seek employment as trade measurement inspectors, these competencies may provide recognition towards the relevant Certificates IV in the PSP Public Service Training Package.

Licensing/Regulatory Information

This Skill Set reflects the minimum requirements for licensing. However, the regulator or individual traders may impose additional requirements before a verifier can start work on some sites.

Skill Set Requirements

MSMTMVER302	Verify simple measuring instruments
MSMTMREF301	Use and maintain reference standards

Target Group

This Skill Set is appropriate for experienced personnel such as quality assurance technicians, instrument manufacturers or importers and software developers who wish to work under a servicing licence to verify simple measuring instruments used in trade measurement. Examples of simple measuring instruments include, beverage measuring instruments, protein measuring instruments, length measuring instruments, area measuring instruments' dimensional measuring instruments, vehicle tanks and milk tanks.

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This Skill Set is appropriate for experienced personnel such as quality assurance technicians, instrument manufacturers or importers and software developers who wish to work under a servicing licence to verify simple measuring instruments used in trade measurement. Examples of simple measuring instruments include, beverage measuring instruments, protein measuring instruments, length measuring instruments, area measuring instruments' dimensional measuring instruments, vehicle tanks and milk tanks.

Suggested words for Statement of Attainment

These units are taken from the Manufacturing Training Package and provide competencies that meet the minimum requirements for licensing as a verifier of a simple measuring instrument.

Custom Content Section

Not applicable.

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MSMSS00012 Trade Measurement Verification (Simple Measure)

Modification History

Release 1. Supersedes and is equivalent to MSASS00011 Trade Measurement Verification (Simple Measure)

Description

This Skill Set provides the units required to work under a servicing license to verify simple measures.

Pathways Information

These units can provide credit towards qualifications within the Manufacturing Training Package. If verifiers seek employment as trade measurement inspectors, these competencies may provide recognition towards the relevant Certificates IV in the PSP Public Service Training Package.

Licensing/Regulatory Information

This Skill Set reflects the minimum requirements for licensing. However, the regulator or individual traders may impose additional requirements before a verifier can start work on some sites.

Skill Set Requirements

MSMTMVER301	Verify simple measures
MSMTMREF301	Use and maintain reference standards

Target Group

This Skill Set is appropriate for experienced personnel such as instrument manufacturers or importers who wish to work under a servicing licence to verify simple measures used in trade measurement. Examples of simple measures include, length measures, alcoholic beverage measures, lubricating oil measures, graduated measures and trade masses in the range 1 mg to 20 kg.

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Suggested words for Statement of Attainment

These units are taken from the Manufacturing Training Package and provide competencies that meet the minimum requirements for licensing as a verifier of simple measures.

Custom Content Section

Not applicable.

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MSMSS00013 Leading Hand/Supervisor

Modification History

Release 2. Imported unit updated to current version. Equivalent.

Release 1. Supersedes and is equivalent to MSASS00004 Leading Hand/Supervisor

Description

This Skill Set has been developed in consultation with the industry and is based on a logical cluster of units which meet critical industry needs in the area of supervision and safety. The Skill Set consists of a cluster of competencies which are commonly practiced (and possibly trained) together. It reflects an industry need to be able to recognise that a person can undertake this defined role.

Pathways Information

These competencies can provide credit towards relevant qualifications in all process manufacturing training packages.

Licensing/Regulatory Information

Not applicable.

Skill Set Requirements

MSMOPS212	Use enterprise computer or data systems
MSMWHS300	Facilitate the implementation of OHS for a work group
MSS403011	Facilitate implementation of competitive systems and practices
TAEDEL301	Provide work skill instruction

Target Group

Entrants to the Leading Hand/Supervisor Skill Set will be required to have completed a Certificate III qualification in a manufacturing related area, or equivalent. This Skill Set addresses the need for coordination and supervision of trainees, apprentices and other production staff to ensure work place safety, quality and production requirements are maintained and monitored.

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Suggested words for Statement of Attainment

These competencies from the MSM Manufacturing and other Training Packages meet the minimum industry requirements for supervision of staff working in a manufacturing environment.

Custom Content Section

Not applicable.

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MSMSS00014 Confined space work team

Modification History

Release 2. Error in Skill Set Requirements. Supersedes and is equivalent.

Release 1. Supersedes and is equivalent to MSASS00001 Confined space work team

Description

Persons entering a confined space must do so in accordance with the relevant Australian Standard. This Skill Set provides the competencies required for confined space entry.

Pathways Information

These units of competency can provide credit towards Certificates II and III in PMA Chemical, Hydrocarbons and Refining Training Package.

Licensing/Regulatory Information

Not applicable.

Skill Set Requirements

MSMWHS200	Work safely
MSMPER200	Work in accordance with an issued permit
MSMPER202	Observe permit work
MSMPER205	Enter confined space

Target Group

Where members of a work team are expected to undertake multiple roles in regard to the confined space entry, then they must be competent in all those roles. This Skill Set is targeted at such a work team. This training would occur before starting work requiring entry to a confined space. This may occur either as part of safety training to work on the site or more commonly as separate training after initial safety induction.

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Suggested words for Statement of Attainment

These competencies from MSM Manufacturing Training Package meet the minimum industry requirements for members of a confined space work team.

Custom Content Section

Not applicable.

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MSMSS00015 Bioprocessing using fermentation

Modification History

Release 1 - New skill set.

Description

This Skill Set reflects the skills requirements to operate bioprocessing equipment to convert biomaterial into a range of commercial bioproducts, including biofuel, livestock feed and fertilizers. This includes the operation and monitoring of fermentation, distillation, separation and recovery processes to specification. It also includes assisting with testing and sampling to produce products to batch processing requirements.

Pathways Information

These units provide credit towards the Certificate III in Laboratory Skills and Certificate III in Process Manufacturing.

Licensing/Regulatory Information

No licensing or certification requirements exist at the time of publication. Relevant legislation, industry standards and codes of practice within Australia must be applied.

Skill Set Requirements

MSL954004 Obtain representative samples in accordance with sampling plan

MSL973013 Perform basic tests

MSMBIO302 Ferment biomaterial to produce bioproducts

MSMBIO303 Distil bioproduct

MSMBIO304 Separate and recover bioproducts

Target Group

This Skill Set is for plant operators and technicians responsible for operating bioprocessing equipment to ferment biomaterial to produce a range of commercial bioproducts, including biofuel, fertilizers and livestock feed.

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Suggested words for Statement of Attainment

These competencies from the MSM Manufacturing Training Package meet industry requirements for operating bioprocessing equipment to ferment biomaterial to produce bioproducts.

Custom Content Section

Not applicable.

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MSMSS00016 Bioprocessing using pyrolysis

Modification History

Release 1 - New skill set.

Description

This Skill Set reflects the skills requirements to process biomass using pyrolysis to produce a range of products, such as biochar, bio-oil and gases (hydrogen, carbon monoxide, methane) which can be used to produce heat, power, chemicals or additives. It includes pre-treating biomass and the operation of the pyrolyser reactor and the ancillary and distillation equipment. It also includes dealing with bioprocessing hazards, such as, dangerous gas emissions and shutting down and isolating machines and equipment in emergencies.

Pathways Information

These units provide credit towards the Certificate III in Process Manufacturing.

Licensing/Regulatory Information

No licensing or certification requirements exist at the time of publication. Relevant legislation, industry standards and codes of practice within Australia must be applied.

Skill Set Requirements

MSMBIO301 Process biomass using pyrolyser

PMAOPS301 Operate a distillation unit

PMAOPS302 Operate reactors and reaction equipment

Target Group

This Skill Set is for plant operators and technicians responsible for operating pyrolyser and distillation equipment to produce a range of commercial bioproducts.

Suggested words for Statement of Attainment

These competencies from the MSM Manufacturing Training Package meets industry requirements for operating pyrolyser and distillation equipment to produce bioproducts.

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Custom Content Section

Not applicable.

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