



Australian Government

UEG Gas Industry Training Package

Release: 3.0

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Imprint Oct 24

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UEG20121 Certificate II in Gas Supply Industry Operations

Modification History

Release 1. This is the first release of this qualification in the UEG Gas Industry Training Package

Qualification Description

This qualification provides competencies for entry-level gas supply industry activities in transmission, distribution pipeline and cylinder operations and functions as outlined below:

- Distribution pipeline activities, including laying distribution infrastructure (including pipes); developing gas pipeline infrastructure and reading gas meters in industrial, commercial and rural environments, on pipelines, associated facilities and equipment, and control centres.
- Transmission pipeline activities, including right of way preparation, rigging operations, hydrotesting, laying pipelines, operating transmission pipeline construction plant and equipment, and conducting minor mechanical maintenance.
- Gas cylinder operations for domestic and industrial supply of gaseous fuels, including checking, testing, maintaining and filling of gaseous fuel cylinders and the storage, handling, loading, transportation and distribution of cylinders in accordance with the relevant Australian Standards and regulatory requirements.

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

Entry Requirements

There are no entry requirements for this qualification

Packaging Rules

A total of 360 weighting points comprising:

120 core weighting points listed below; plus

240 elective weighting points from the elective units listed below.

Choose a minimum of 240 **weighting points** elective units from the list below, of which between 0 and 60 **weighting points** can be taken from Group A, between 180 and 240 **weighting points** can be taken from Group B, all 240 **weighting points** can be taken from Group B.

Up to 60 weighting points of the elective units Group A, may be selected, with appropriate contextualisation, from any relevant nationally endorsed Training Package or accredited course, provided selected units contribute to the vocational outcome of the qualification. Previously assigned weighting points are listed in the UEG CVIG, if not listed weighting points will be 10 points unless directed from the Gas Industry Reference Committee (IRC). The general elective units must contribute to the vocational outcomes of the qualification.

Where imported units are selected, care must be taken to ensure all prerequisite units specified

are complied with.

Where a prerequisite unit is attached to a unit, it is identified by this symbol ⊥.

Core units		Weighting Points
UEGNSG005	Prepare to work in the gas industry	20
UEGNSG132	Carry out basic work activities in a gas industry work environment	60
UEGNSG140	Apply environmental policies and procedures in the utilities industry	20
UEGNSG141	Apply workplace health and safety regulations, codes and practices in the gas supply industry	20
Group A: Imported and common elective units		Weighting Points
CPCCLDG3001	Licence to perform dogging	30
CPCCLRG3001	Licence to perform rigging basic level ⊥ CPCCLDG3001 Licence to perform dogging	40
CPCCWHS1001	Prepare to work safely in the construction industry	10
CPPFES2005	Demonstrate first attack firefighting equipment	15
HLTAID009	Provide cardiopulmonary resuscitation	10
HLTAID011	Provide First Aid	10
HLTAID013	Provide First Aid in remote or isolated site	10
HLTWHS005	Conduct manual tasks safely	20
ICTICT214	Operate application software packages	20
MSMPER200	Work in accordance with an issued permit	20
MSMPER201	Monitor and control work permits	20
MSMPER202	Observe permit work	20
MSMSUP210	Process and record information	30

MSMSUP240	Undertake minor maintenance	30
MSMWHS110	Follow emergency response procedures	20
MSMWHS205	Control minor incidents	30
MSMWHS216	Operate breathing apparatus	20
MSMWHS217	Gas test atmospheres	30
MSS402061	Use SCADA systems in operations	30
PMAOMIR210	Control evacuation to muster point	20
PMAOPS223	Operate and monitor valve systems	40
PMAWHS211	Prepare equipment for emergency response	20
RIICCM205F	Carry out manual excavation	10
RIICCM206E	Support plant operations	10
RIICCM207E	Spread and compact materials manually	10
RIICCM208E	Carry out basic levelling	10
RIICCM210E	Install trench support	15
RIICRC208E	Lay pipes	40
RIIMPO308F	Conduct tracked dozer operations	40
RIIMPO318F	Conduct civil construction skid steer loader operations	70
RIISAM201E	Handle resources and infrastructure materials and safely dispose of nontoxic materials	15
RIIWHS202E	Enter and work in confined spaces	30
RIIWHS204E	Work safely at heights	20
RIIWHS205E	Control traffic with stop-slow bat	10

RIIWMG203E	Drain and dewater civil construction sites	20
TLIB0002	Carry out vehicle inspection	20
TLIC2002	Drive light rigid vehicle	40
TLIC2025	Operate four wheel drive vehicle	40
TLIC3003	Drive medium rigid vehicle	40
TLIC3004	Drive heavy rigid vehicle	40
TLIC3005	Drive heavy combination vehicle	40
TLID0012	Operate a vehicle-mounted loading crane	40
TLID2003	Handle dangerous goods/hazardous substances	40
TLID2010	Operate a forklift	40
TLID2016	Load and unload explosives/dangerous goods	30
TLIF2006	Apply accident-emergency procedures	20
TLIF2010	Apply fatigue management strategies	30
TLIF2012	Apply safe procedures when handling/transporting dangerous goods or explosives	30
TLILIC0002	Licence to operate a vehicle loading crane (capacity 10 metre tonnes and above)	40
TLILIC0003	Licence to operate a forklift truck	40
TLILIC2014	Licence to drive a light rigid vehicle	40
TLILIC2015	Licence to drive a medium rigid vehicle	40
TLILIC2016	Licence to drive a heavy rigid vehicle	50
TLILIC3017	Licence to drive a heavy combination vehicle	60
UEECO0002	Maintain documentation	20

Group B: Qualification elective units		Weighting Points
UEECD0007	Apply work health and safety regulations, codes and practices in the workplace	20
UEECD0019	Fabricate, assemble and dismantle utilities industry components └ UEECD0007 Apply work health and safety regulations, codes and practices in the workplace	40
UEECD0051	Use drawings, diagrams, schedules, standards, codes and specifications └ UEECD0007 Apply work health and safety regulations, codes and practices in the workplace	40
UEGNSG004	Locate, prove and protect utility assets	60
UEGNSG006	Use a portable gas detector to locate escape	40
UEGNSG101	Undertake gas leak surveys	60
UEGNSG134	Establish a utilities infrastructure work site	60
UEGNSG203	Evaluate and extinguish gas fire	20
UEGNSG206	Construct and lay copper and stainless steel gas distribution pipelines	60
UEGNSG219	Conduct excavations in the utilities industry	60
UEGNSG226	Assist with the construction, laying and connection of gas distribution services to mains	40
UEGNSG227	Assist with the construction and laying of gas distribution mains	40
UEGNSG230	First on site response to gas pipeline emergencies └ CPPFES2005 Demonstrate first attack firefighting equipment └ HLTAID011 Provide First Aid └ UEGNSG141 Apply workplace health and safety regulations, codes and practices in the gas supply industry	90

UEGNSG303	Carry out transmission pipeline construction work activities	60
UEGNSG316	Work in proximity of transmission pipeline construction plant and equipment	40
UEGNSG330	Coat metallic pipelines	80
UEGNSG331	Establish right of way access for transmission pipeline construction	60
UEGNSG342	Maintain pipeline easements	40
UEGNSG615	Fill LPG cylinders	80
UEGNSG616	Refurbish gas cylinders	80
UEGNSG702	Disconnect and reconnect small capacity gas meters	40
UEGNSG708	Pressure test residential and small commercial gas installations	40
UEGNSG709	Process meter reading information using appropriate technology	40
UEGNSG710	Read and record meter readings	40
UEGNSG714	Relight Type A gas appliances	60
UEGNSG715	Use data logging equipment	60
UEGNSG804	Maintain single stage and single run gas flow and pressure control and measuring devices	80
UEGNSG901	Apply safety practices, procedures, and compliance standards for handling hydrogen gas	30
UEPOPS203	Operate and monitor communications system	20
UEPOPS205	Conduct minor mechanical maintenance	30
UETTDREL14	Working safely near live electrical apparatus as a non-electrical worker	40

Qualification Mapping Information

This qualification replaces and is equivalent to UEG20120 Certificate II in Gas Supply Industry Operations

Links

Companion Volume Implementation Guides are found in VETNet -

<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=6a6c032e-ffcb-4f3d-8063-415efbd261e8>

UEG30121 Certificate III in Gas Supply Industry Operations

Modification History

Release 1. This is the first release of this qualification in the UEG Gas Industry Training Package

Qualification Description

This qualification provides competencies to conduct gas supply industry activities, including installation, maintenance, fault find and repair, operations of distribution and transmission gas pipelines, cylinders and associated equipment.

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

Entry Requirements

There are no entry requirements for this qualification

Packaging Rules

A total of 960 weighting points comprising:

300 core weighting points listed below; plus

660 elective weighting points from the elective units listed below.

Choose a minimum of 660 **weighting points** elective units from the list below, of which between 0 and 160 **weighting points** can be taken from Group A, between 0 and 180 **weighting points** can be taken from Group B, between 0 and 130 **weighting points** can be taken from Group D; or **elective units** between 330 and 660 **weighting points** can be taken from Group C.

Up to 160 weighting points of the elective units Group A, may be selected, with appropriate contextualisation, from any relevant nationally endorsed Training Package or accredited course, provided selected units contribute to the vocational outcome of the qualification. Previously assigned weighting points are listed in the UEG CVIG, if not listed weighting points will be 10 points unless directed from the Gas Industry Reference Committee (IRC). The general elective units must contribute to the vocational outcomes of the qualification.

Where imported units are selected, care must be taken to ensure all prerequisite units specified are complied with.

Where a prerequisite unit is attached to a unit, it is identified by this symbol $\perp$.

Core units

Weighting Points

BSBLDR301	Support effective workplace relationships	40

BSBPEF301	Organise personal work priorities	40
BSBWHS311	Assist with maintaining workplace safety	40
BSBXTW301	Work in a team	40
UEGNSG005	Prepare to work in the gas industry	20
UEGNSG132	Carry out basic work activities in a gas industry work environment	60
UEGNSG133	Comply with environmental policies and procedures in the utilities industry	40
UEGNSG141	Apply workplace health and safety regulations, codes and practices in the gas supply industry	20

Group A: Imported and common elective units**Weighting Points**

AVIW0006	Perform infrastructure inspections using remote operated systems	60
BSBHRM413	Support the learning and development of teams and individuals	40
BSBOPS301	Maintain business resources	40
BSBOPS402	Coordinate business operational plans	40
BSBSTR301	Contribute to continuous improvement	40
BSBSTR401	Promote innovation in team environments	40
BSBWHS308	Participate in WHS hazard identification, risk assessment and risk control processes	50
CPCCLDG3001	Licence to perform dogging	30
CPCCLRG3001	Licence to perform rigging basic level └ CPCCLDG3001 Licence to perform dogging	40
CPCCLRG3002	Licence to perform rigging intermediate level └ CPCCLRG3001 Licence to perform rigging basic level	40
CPCCWHS1001	Prepare to work safely in the construction industry	10

CPPFES2005	Demonstrate first attack firefighting equipment	15
HLTAID009	Provide cardiopulmonary resuscitation	10
HLTAID011	Provide First Aid	10
HLTAID013	Provide First Aid in remote or isolated site	10
HLTWHS005	Conduct manual tasks safely	20
ICTICT214	Operate application software packages	20
MSMPER200	Work in accordance with an issued permit	20
MSMPER201	Monitor and control work permits	20
MSMPER202	Observe permit work	20
MSMPER300	Issue work permits └ MSMWHS201 Conduct hazard analysis	20
MSMPER400	Coordinate permit process └ MSMPER300 Issue work permits	30
MSMPMC400	Carry out stock control	20
MSMSUP200	Achieve work outcomes	30
MSMSUP210	Process and record information	30
MSMSUP240	Undertake minor maintenance	30
MSMSUP303	Identify equipment faults	40
MSMSUP390	Use structured problem-solving tools	40
MSMWHS110	Follow emergency response procedures	20
MSMWHS201	Conduct hazard analysis	20
MSMWHS205	Control minor incidents	30
MSMWHS216	Operate breathing apparatus	20

MSMWHS217	Gas test atmospheres	30
MSS402061	Use SCADA systems in operations	30
MSS402080	Undertake root cause analysis	50
PMAOMIR210	Control evacuation to muster point	20
PMAOMIR346	Assess and secure an incident site	30
PMAOPS223	Operate and monitor valve systems	40
PMAOPS315	Operate and troubleshoot process control systems	60
PMAOPS317	Undertake ship transfer operations	40
PMAOPS346	Operate and troubleshoot liquefaction process	60
PMAOPS338	Communicate and monitor pipeline activities	40
PMASUP311	Operate communications hub	40
PMAWHS211	Prepare equipment for emergency response	20
PMAWHS310	Investigate incidents	30
PMAWHS311	Lead emergency teams	20
PMBWELD301 E	Join polyethylene plastic pipelines using butt welding	20
PMBWELD302 E	Join polyethylene plastic pipelines using electrofusion welding	20
RIICCM205F	Carry out manual excavation	10
RIICCM206E	Support plant operations	10
RIICCM207E	Spread and compact materials manually	10
RIICCM208E	Carry out basic levelling	10
RIICCM210E	Install trench support	15

RIICRC208E	Lay pipes	40
RIIHAN309F	Conduct telescopic materials handler operations	80
RIIMPO304E	Conduct wheel loader operations	40
RIIMPO308F	Conduct tracked dozer operations	40
RIIMPO309F	Conduct wheeled dozer operations	40
RIIMPO318F	Conduct civil construction skid steer loader operations	70
RIIMPO319E	Conduct backhoe/loader operations	50
RIIMPO320F	Conduct civil construction excavator operations	80
RIISAM201E	Handle resources and infrastructure materials and safely dispose of nontoxic materials	15
RIIWHS202E	Enter and work in confined spaces	30
RIIWHS204E	Work safely at heights	20
RIIWHS205E	Control traffic with stop-slow bat	10
RIIWHS302E	Implement traffic management plans	20
RIIWMG203E	Drain and dewater civil construction sites	20
TLIB0002	Carry out vehicle inspection	20
TLIC0003	Operate LP gas tanker └ TLILIC0001 Licence to transport dangerous goods by road	40
TLIC2002	Drive light rigid vehicle	40
TLIC2025	Operate four wheel drive vehicle	40
TLIC3003	Drive medium rigid vehicle	40
TLIC3004	Drive heavy rigid vehicle	40
TLIC3005	Drive heavy combination vehicle	40

TLID0012	Operate a vehicle-mounted loading crane	40
TLID2003	Handle dangerous goods/hazardous substances	40
TLID2010	Operate a forklift	40
TLID2016	Load and unload explosives/dangerous goods	30
TLID3015	Identify and label explosives/dangerous goods	20
TLID3023	Use specialised liquid bulk gas transfer equipment	40
TLID3027	Prepare for transport of dangerous goods	50
TLID3036	Lift and move load using a mobile crane	40
TLIF2006	Apply accident-emergency procedures	20
TLIF2010	Apply fatigue management strategies	30
TLIF2012	Apply safe procedures when handling/transporting dangerous goods or explosives	30
TLILIC0001	Licence to transport dangerous goods by road	50
TLILIC0002	Licence to operate a vehicle loading crane (capacity 10 metre tonnes and above)	40
TLILIC0003	Licence to operate a forklift truck	40
TLILIC0008	Licence to operate a non-slewing mobile crane (greater than 3 tonnes capacity)	60
TLILIC0010	Licence to operate a slewing mobile crane (up to 20 tonnes)	70
TLILIC0013	Licence to operate a slewing mobile crane (up to 60 tonnes)	70
TLILIC2014	Licence to drive a light rigid vehicle	40
TLILIC2015	Licence to drive a medium rigid vehicle	40
TLILIC2016	Licence to drive a heavy rigid vehicle	50

TLILIC3017	Licence to drive a heavy combination vehicle	60
TLILIC3018	Licence to drive a multi-combination vehicle	60
UEECO0002	Maintain documentation	20

Group B: General elective units**Weighting Points**

UEECD0007	Apply work health and safety regulations, codes and practices in the workplace	20
UEECD0019	Fabricate, assemble and dismantle utilities industry components └ UEECD0007 Apply work health and safety regulations, codes and practices in the workplace	40
UEECD0051	Use drawings, diagrams, schedules, standards, codes and specifications └ UEECD0007 Apply work health and safety regulations, codes and practices in the workplace	40
UEGNSG004	Locate, prove and protect utility assets	60
UEGNSG006	Use a portable gas detector to locate escape	40
UEGNSG134	Establish a utilities infrastructure work site	60
UEGNSG140	Apply environmental policies and procedures in the utilities industry	20
UEGNSG203	Evaluate and extinguish gas fire	20
UEGNSG206	Construct and lay copper and stainless steel gas distribution pipelines	60
UEGNSG219	Conduct excavations in the utilities industry	60
UEGNSG226	Assist with the construction, laying and connection of gas distribution services to mains	40
UEGNSG227	Assist with the construction and laying of gas distribution mains	40
UEGNSG230	First on site response to gas pipeline emergencies └ CPPFES2005 Demonstrate first attack firefighting	90

	equipment	
	└ HLT AID011 Provide First Aid	
	└ UEGNSG141 Apply workplace health and safety regulations, codes and practices in the gas supply industry	
UEGNSG303	Carry out transmission pipeline construction work activities	60
UEGNSG316	Work in proximity of transmission pipeline construction plant and equipment	40
UEGNSG330	Coat metallic pipelines	80
UEGNSG331	Establish right of way access for transmission pipeline construction	60
UEGNSG342	Maintain pipeline easements	40
UEGNSG615	Fill LPG cylinders	80
UEGNSG616	Refurbish gas cylinders	80
UEGNSG701	Disconnect and reconnect data logging equipment	40
UEGNSG702	Disconnect and reconnect small capacity gas meters	40
UEGNSG703	Fault find and repair data logging equipment	100
UEGNSG704	Install and commission data logging equipment	80
UEGNSG707	Process data logging information	60
UEGNSG708	Pressure test residential and small commercial gas installations	40
UEGNSG709	Process meter reading information using appropriate technology	40
UEGNSG710	Read and record meter readings	40
UEGNSG714	Relight Type A gas appliances	60
UEGNSG715	Use data logging equipment	60

UEGNSG804	Maintain single stage and single run gas flow and pressure control and measuring devices	80
UEPOPS203	Operate and monitor communications system	20
UEPOPS205	Conduct minor mechanical maintenance	30
UETTDREL14	Working safely near live electrical apparatus as a non-electrical worker	40

Group C: General elective units**Weighting Points**

UEECD0050	Use and maintain the integrity of a portable gas detection device	20
	└ UEECD0007 Apply work health and safety regulations, codes and practices in the workplace	
UEGNSG101	Undertake gas leak surveys	60
UEGNSG103	Install and commission stationary gas fuelled turbine engines	60
	└ CPCCWHS1001 Prepare to work safely in the construction industry	
	└ HLTAID009 Provide cardiopulmonary resuscitation	
UEGNSG135	Monitor and control gas odourisation	100
UEGNSG137	Operate and maintain gas station water bath heaters	60
UEGNSG139	Repair and maintain stationary gas fuelled turbine engines	60
UEGNSG142	Conduct isolations under the permit to work system for gas industry work sites	80
	└ MSMWHS217 Gas test atmospheres	
UEGNSG200	Conduct butt fusion of large diameter polyethylene gas pipeline systems	20
UEGNSG201	Conduct distribution pipeline emergency repair	100
	└ UEGNSG225 Perform routine maintenance on distribution pipeline facilities and equipment	
UEGNSG202	Conduct emergency site control on gas distribution assets	100

UEGNSG205	Commission or decommission gas distribution pipelines	100
UEGNSG208	Construct and lay large copper gas distribution pipelines	60
UEGNSG209	Construct and lay polyethylene gas distribution mains	60
UEGNSG211	Construct and lay steel gas distribution pipelines	60
UEGNSG212	Construct, lay and connect a gas distribution service to a plastic main	60
UEGNSG213	Construct, lay and connect a gas distribution service to a steel main	60
UEGNSG217	Launch and recover PIGs in a gas distribution pipeline	100
UEGNSG218	Carry out surveillance on gas distribution assets	90
UEGNSG222	Construct and lay nylon or PVC gas distribution mains	60
UEGNSG225	Perform routine maintenance on distribution pipeline facilities and equipment	100
UEGNSG229	Prepare simple drawings of as laid gas mains and services	40
UEGNSG304	Commission or decommission gas transmission pipelines	120
UEGNSG306	Control gas processing, storage or regasification operations in an LNG storage facility	100
UEGNSG312	Inject gas into underground storage	100
UEGNSG313	Monitor and operate flow control, pressure measuring and regulating devices for gas transmission └ UEGNSG006 Use a portable gas detector to locate escape	100
UEGNSG315	Withdraw gas from underground storage	100
UEGNSG317	First response to a gas facility event └ CPPFES2005 Demonstrate first attack firefighting equipment └ HLTAID011 Provide First Aid └ UEGNSG141 Apply workplace health and safety	60

	regulations, codes and practices in the gas supply industry	
UEGNSG346	Launch and recover PIGs in gas transmission pipelines	100
UEGNSG347	Perform routine maintenance on transmission pipeline facilities and equipment	110
UEGNSG348	Supervise the operation of plant and equipment for the construction of gas transmission pipelines	60
UEGNSG349	Carry out surveillance of gas transmission pipelines	110
UEGNSG352	Check and report on gas station conditions	40
UEGNSG353	Carry out aerial surveillance of gas transmission pipelines	60
UEGNSG354	Control excavations in the vicinity of gas transmission pipelines └ UEGNSG004 Locate, prove and protect utility assets	60
UEGNSG355	Monitor and report on cathodic protection systems	60
UEGNSG411	Maintain cathodic protection systems	100
UEGNSG412	Install cathodic protection systems	110
UEGNSG506	Respond to gas infrastructure emergencies	80
UEGNSG509	Remotely monitor and operate gas transmission flow and pressure measuring and regulating devices └ MSS402061 Use SCADA systems in operations	90
UEGNSG614	Load, unload, exchange and connect LPG cylinders	80
UEGNSG617	Monitor and control the transfer of bulk LPG	100
UEGNSG618	Process liquefied petroleum gas (LPG)	100
UEGNSG619	Perform scheduled maintenance on gas processing or storage facilities and equipment	110
UEGNSG620	Organise the repair of faults in LPG processing or storage facilities and equipment	80
UEGNSG621	Control bulk storage of LPG	110

UEGNSG622	Assess the operational capability of gas safety equipment on a delivery vehicle	40
UEGNSG706	Test new residential and small commercial gas installations	60
UEGNSG713	Investigate billing exceptions-conditions	60
UEGNSG805	Maintain multi-stage and multi-run gas flow and pressure measuring and regulating devices └ UEGNSG006 Use a portable gas detector to locate escape └ UEGNSG804 Maintain single stage and single run gas flow and pressure control and measuring devices	80
UEGNSG807	Install gas flow, measuring and pressure regulating devices └ UEGNSG006 Use a portable gas detector to locate escape	80
UEGNSG811	Monitor and operate complex flow control, measuring and regulating devices for gas distribution	110
UEGNSG901	Apply safety practices, procedures, and compliance standards for handling hydrogen gas	30
UEGNSG902	Commission, operate and maintain electrolyzers	90
UEGNSG903	Fault find and repair hydrogen storage equipment	110
UEGNSG904	Inject hydrogen gas into distribution networks	110
UEGNSG905	Monitor and control hydrogen in gas distribution networks	60
UEGNSG906	Undertake routine hydrogen storage operations	60
UEPMNT367	Install and commission stationary gas fuelled reciprocating engines └ CPCCWHS1001 Prepare to work safely in the construction industry └ HLTAID001 Provide cardiopulmonary resuscitation	60
UEPMNT368	Repair and maintain stationary gas fuelled reciprocating engines └ CPCCWHS1001 Prepare to work safely in the construction industry	60

└ HLTAID001 Provide cardiopulmonary resuscitation

UEPOPS317	Operate and monitor fixed fire protection systems	30
UEPOPS336	Manage, operate and monitor a gas turbine unit	60
UEPOPS347	Operate and monitor supervisory, control and data acquisition systems	40

Group D: General elective units

Weighting Points

UEGNSG106	Coordinate repair of pipeline, facilities and equipment	110
UEGNSG108	Operate and monitor pipeline control systems	60
UEGNSG109	Control field pipeline operations	60
UEGNSG110	Supervise technical operations for gas distribution or transmission	60
UEGNSG131	Compile a gas industry technical report	20
UEGNSG210	Supervise and monitor contract staff for work on distribution pipelines	120
UEGNSG214	Coordinate and conduct gas distribution pipeline repair and modifications	110
UEGNSG215	Coordinate construction, laying and testing of gas distribution pipelines	110
UEGNSG302	Conduct transmission pipeline emergency repair	120
UEGNSG305	Coordinate gas transmission pipeline repairs and modifications	110
UEGNSG307	Coordinate the operation of relevant plant and equipment for transmission pipeline construction	80
UEGNSG309	Coordinate transmission pipeline construction operations	60
UEGNSG310	Supervise and monitor contract work	60
UEGNSG314	Liaise with third party and the community to maintain pipeline integrity and community safety	40

UEGNSG326	Coordinate and monitor staff and contractors	60
UEGNSG501	Communicate with gas industry stakeholders to meet operational requirements	110
UEGNSG503	Monitor and control field activities	110
UEGNSG504	Monitor and control gas infrastructure using Control Centre systems	110
UEGNSG505	Operate and monitor gas infrastructure to meet nominated demand └ MSS402061 Use SCADA systems in operations	120
UEGNSG806	Maintain SCADA controlled flow and pressure equipment and electronic gas measurement equipment └ UEGNSG006 Use a portable gas detector to locate escape	100

Qualification Mapping Information

This qualification replaces and is equivalent to UEG30120 Certificate III in Gas Supply Industry Operations

Links

Companion Volume Implementation Guides are found in VETNet -
<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=6a6c032e-ffcb-4f3d-8063-415efbd261e8>

UEG40120 Certificate IV in Gas Control Operations

Modification History

Release 3. This is the third release of this qualification in the UEG Gas Industry Training Package.

- Superseded unit updated: UEGNSG509 Remotely monitor and operate gas transmission flow and pressure measuring and regulating devices.

Release 2. This is the second release of this qualification in the UEG Gas Industry Training Package.

- Removed deleted unit from the qualification: UEGNSG508.

Release 1. This is the first release of this qualification in the UEG - Gas Industry Training Package.

Qualification Description

This is a qualification for a person who works in a gas Control Centre/gas control room environment.

It provides competencies to monitor and control the flow and pressure of natural gas within transmission, distribution, storage and gathering systems, and respond to routine and emergency situations using a wide range of industry response procedures.

It may also include responsibility for coordinating the work of others.

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

Entry Requirements

There are no entry requirements for this qualification

Packaging Rules

A total of **1280 weighting points** comprising:

330 core weighting points listed below; **plus**

950 general elective weighting points from the elective units listed below.

Choose **950 weighting points** elective units from the list below, of which between 0 and 140 **weighting points** can be taken from Group A; between 120 and 200 **weighting points** can be taken from Group B, and a minimum of 660 **weighting points** must be taken from Group C.

Up to 140 weighting points of the elective units Group A, may be selected, with appropriate contextualisation, from any relevant nationally endorsed Training Package or accredited course,

provided selected units contribute to the vocational outcome of the qualification. Previously assigned weighting points are listed in the UEG CVIG, if not listed weighting points will be 10 points unless directed from the Gas Industry Reference Committee (IRC). The general elective units must contribute to the vocational outcomes of the qualification.

Where imported units are selected, care must be taken to ensure that all prerequisite units specified are complied with.

Where a prerequisite unit is attached to a unit, it is identified by this symbol ⊥.

Core units		Weighting Points
BSBLDR414	Lead team effectiveness	50
BSBOPS402	Coordinate business operational plans	40
BSBPEF402	Develop personal work priorities	40
MSMPER201	Monitor and control work permits	20
MSMPER300	Issue work permits	20
	⊥ MSMWHS201 Conduct hazard analysis	
MSMWHS201	Conduct hazard analysis	20
UEECD0010	Compile and produce an energy sector detailed report	60
UEECD0024	Implement and monitor energy sector WHS policies and procedures	20
UEGNSG326	Coordinate and monitor staff and contractors	60
Group A: Imported and common elective units		Weighting Points
BSBLDR301	Support effective workplace relationships	40
BSBOPS404	Implement customer service strategies	40
BSBWHS311	Assist with maintaining workplace safety	40
BSBXTW301	Work in a team	40
MSS402061	Use SCADA systems in operations	30
UEECD0027	Participate in development and follow a personal competency development plan	20
UEPOPS347	Operate and monitor supervisory, control and data acquisition systems	40
Group B: Qualification elective units.		Weighting Points

UEGNSG005	Prepare to work in the gas industry	20
UEGNSG109	Control field pipeline operations	60
UEGNSG132	Carry out basic work activities in a gas industry work environment	60
UEGNSG133	Comply with environmental policies and procedures in the utilities industry	40
UEGNSG141	Apply workplace health and safety regulations, codes and practices in the gas supply industry	20
UEGNSG314	Liaise with third party and the community to maintain pipeline integrity and community safety	40
UEGNSG352	Check and report on gas station conditions	40
UEGNSG806	Maintain SCADA controlled flow and pressure equipment and electronic gas measurement equipment └ UEGNSG006 Use a portable gas detector to locate escape	100

Group C: Qualification elective units

UEGNSG501	Communicate with gas industry stakeholders to meet operational requirements	110
UEGNSG502	Implement emergency and critical incident response for gas infrastructure incidents	120
UEGNSG503	Monitor and control field activities	110
UEGNSG504	Monitor and control gas infrastructure using Control Centre systems	110
UEGNSG505	Operate and monitor gas infrastructure to meet nominated demand └ MSS402061 Use SCADA systems in operations	120
UEGNSG506	Respond to gas infrastructure emergencies	80
UEGNSG509	Remotely monitor and operate gas transmission flow and pressure measuring and regulating devices └ MSS402061 Use SCADA systems in operations	90

Qualification Mapping Information

This qualification is new.

Links

Companion Volume Implementation Guides are found in VETNet -
<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=6a6c032e-ffcb-4f3d-8063-415efbd261e8>

UEG40221 Certificate IV in Gas Supply Industry Operations

Modification History

Release 1. This is the first release of this qualification in the UEG Gas Industry Training Package

Qualification Description

This qualification provides competencies to supervise and conduct gas supply industry activities, including installation, diagnostics and maintenance of distribution and transmission gas pipelines, cylinders and associated equipment.

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

Entry Requirements

There are no entry requirements for this qualification

Packaging Rules

A total of 1280 weighting points comprising:

290 core weighting points listed below; plus

990 elective weighting points from the elective units listed below.

Choose a minimum of 990 **weighting points** elective units from the list below, of which between 0 and 220 **weighting points** can be taken from Group A, between 0 and 180 **weighting points** can be taken from Group B, between 0 and 670 **weighting points** can be taken from Group C; or **elective units** between 200 and 990 **weighting points** can be taken from Group D.

Up to 220 weighting points of the elective units Group A, may be selected, with appropriate contextualisation, from any relevant nationally endorsed Training Package or accredited course, provided selected units contribute to the vocational outcome of the qualification. Previously assigned weighting points are listed in the UEG CVIG, if not listed weighting points will be 10 points unless directed from the Gas Industry Reference Committee (IRC). The general elective units must contribute to the vocational outcomes of the qualification.

Where imported units are selected, care must be taken to ensure all prerequisite units specified are complied with.

Where a prerequisite unit is attached to a unit, it is identified by this symbol ⊏.

Core units

Weighting Points

BSBLDR414	Lead team effectiveness	50

BSBOPS402	Coordinate business operational plans	40
BSBPEF402	Develop personal work priorities	40
UEECD0024	Implement and monitor energy sector WHS policies and procedures	20
UEGNSG005	Prepare to work in the gas industry	20
UEGNSG132	Carry out basic work activities in a gas industry work environment	60
UEGNSG133	Comply with environmental policies and procedures in the utilities industry	40
UEGNSG141	Apply workplace health and safety regulations, codes and practices in the gas supply industry	20

Group A: Imported and common elective units**Weighting Points**

BSBHRM413	Support the learning and development of teams and individuals	40
BSBINS402	Coordinate workplace information systems	40
BSBLDR301	Support effective workplace relationships	40
BSBLDR413	Lead effective workplace relationships	50
BSBOPS301	Maintain business resources	40
BSBOPS404	Implement customer service strategies	40
BSBPEF301	Organise personal work priorities	40
BSBST301	Contribute to continuous improvement	40
BSBST401	Promote innovation in team environments	40
BSBST402	Implement continuous improvement	40
BSBWHS308	Participate in WHS hazard identification, risk assessment and risk control processes	50
BSBWHS311	Assist with maintaining workplace safety	40

BSBXTW301	Work in a team	40
CPCCLDG3001	Licence to perform dogging	30
CPCCLRG3001	Licence to perform rigging basic level └ CPCCLDG3001 Licence to perform dogging	40
CPCCLRG3002	Licence to perform rigging intermediate level └ CPCCLRG3001 Licence to perform rigging basic level	40
CPCCWHS1001	Prepare to work safely in the construction industry	10
CPCPCM4012	Estimate and cost work	40
CPPFES2005	Demonstrate first attack firefighting equipment	15
HLTAID009	Provide cardiopulmonary resuscitation	10
HLTAID011	Provide First Aid	10
HLTAID013	Provide First Aid in remote or isolated site	10
HLTWHS005	Conduct manual tasks safely	20
ICTICT214	Operate application software packages	20
MSMOPS400	Optimise process/plant area	60
MSMPER200	Work in accordance with an issued permit	20
MSMPER201	Monitor and control work permits	20
MSMPER202	Observe permit work	20
MSMPER300	Issue work permits └ MSMWHS201 Conduct hazard analysis	20
MSMPER400	Coordinate permit process └ MSMPER300 Issue work permits	30
MSMPMC400	Carry out stock control	20
MSMSUP210	Process and record information	30

MSMSUP240	Undertake minor maintenance	30
MSMSUP303	Identify equipment faults	40
MSMWHS110	Follow emergency response procedures	20
MSMWHS201	Conduct hazard analysis	20
MSMWHS205	Control minor incidents	30
MSMWHS216	Operate breathing apparatus	20
MSMWHS217	Gas test atmospheres	30
MSS402061	Use SCADA systems in operations	30
MSS402080	Undertake root cause analysis	50
PMAOMIR210	Control evacuation to muster point	20
PMAOMIR346	Assess and secure an incident site	30
PMAOMIR407	Audit incident preparedness and established response systems	80
PMAOMIR418	Coordinate incident response	40
PMAOMIR430	Conduct and assess incident exercises	35
PMAOMIR444	Develop incident containment tactics	40
PMAOPS223	Operate and monitor valve systems	40
PMAOPS317	Undertake ship transfer operations	40
PMAOPS346	Operate and troubleshoot liquefaction process	60
PMAOPS402	Respond to abnormal process situations └ MSMSUP390 Use structured problem-solving tools	50
PMAOPS405	Operate complex control systems	80
PMAOPS410	Operate remote production facilities	40

PMASUP410	Develop plant documentation	30
PMASUP444	Plan plant preparation and isolation	50
PMAWHS211	Prepare equipment for emergency response	20
PMAWHS310	Investigate incidents	30
PMAWHS311	Lead emergency teams	20
PMBWELD301 E	Join polyethylene plastic pipelines using butt welding	20
PMBWELD302 E	Join polyethylene plastic pipelines using electrofusion welding	20
RIICCM205F	Carry out manual excavation	10
RIICCM206E	Support plant operations	10
RIICCM207E	Spread and compact materials manually	10
RIICCM208E	Carry out basic levelling	10
RIICCM210E	Install trench support	15
RIICRC208E	Lay pipes	40
RIIHAN309F	Conduct telescopic materials handler operations	80
RIIMPO304E	Conduct wheel loader operations	40
RIIMPO308F	Conduct tracked dozer operations	40
RIIMPO309F	Conduct wheeled dozer operations	40
RIIMPO318F	Conduct civil construction skid steer loader operations	70
RIIMPO319E	Conduct backhoe/loader operations	50
RIIMPO320F	Conduct civil construction excavator operations	80
RIIRIS301E	Apply risk management processes	40

RIISAM201E	Handle resources and infrastructure materials and safely dispose of nontoxic materials	15
RIIWHS202E	Enter and work in confined spaces	30
RIIWHS204E	Work safely at heights	20
RIIWHS205E	Control traffic with stop-slow bat	10
RIIWHS302E	Implement traffic management plans	20
RIIWMG203E	Drain and dewater civil construction sites	20
TLIB0002	Carry out vehicle inspection	20
TLIC0003	Operate LP gas tanker └ TLILIC0001 Licence to transport dangerous goods by road	40
TLIC2002	Drive light rigid vehicle	40
TLIC2025	Operate four wheel drive vehicle	40
TLIC3003	Drive medium rigid vehicle	40
TLIC3004	Drive heavy rigid vehicle	40
TLIC3005	Drive heavy combination vehicle	40
TLIC4006	Drive multi-combination vehicle	40
TLID0012	Operate a vehicle-mounted loading crane	40
TLID2003	Handle dangerous goods/hazardous substances	40
TLID2010	Operate a forklift	40
TLID2016	Load and unload explosives/dangerous goods	30
TLID3015	Identify and label explosives/dangerous goods	20
TLID3023	Use specialised liquid bulk gas transfer equipment	40
TLID3027	Prepare for transport of dangerous goods	50

TLID3036	Lift and move load using a mobile crane	40
TLIF0012	Implement and coordinate accident-emergency procedures	40
TLIF0014	Monitor the safety of transport activities (Chain of Responsibility)	40
TLIF2006	Apply accident-emergency procedures	20
TLIF2010	Apply fatigue management strategies	30
TLIF2012	Apply safe procedures when handling/transporting dangerous goods or explosives	30
TLIF3063	Administer the implementation of fatigue management strategies	50
TLIF3096	Carry out emergency response to a dangerous goods incident	40
TLIF4065	Ensure compliance with Australian Dangerous Goods Code	70
TLIF4066	Implement and supervise transport regulations compliance systems	80
TLIL4059	Implement asset management systems	40
TLILIC0001	Licence to transport dangerous goods by road	50
TLILIC0002	Licence to operate a vehicle loading crane (capacity 10 metre tonnes and above)	40
TLILIC0003	Licence to operate a forklift truck	40
TLILIC0008	Licence to operate a non-slewing mobile crane (greater than 3 tonnes capacity)	60
TLILIC0010	Licence to operate a slewing mobile crane (up to 20 tonnes)	70
TLILIC0013	Licence to operate a slewing mobile crane (up to 60 tonnes)	70
TLILIC2014	Licence to drive a light rigid vehicle	40

TLILIC2015	Licence to drive a medium rigid vehicle	40
TLILIC2016	Licence to drive a heavy rigid vehicle	50
TLILIC3017	Licence to drive a heavy combination vehicle	60
TLILIC3018	Licence to drive a multi-combination vehicle	60
UEECO0002	Maintain documentation	20

Group B: General elective units.**Weighting Points**

UEECD0007	Apply work health and safety regulations, codes and practices in the workplace	20
UEECD0019	Fabricate, assemble and dismantle utilities industry components └ UEECD0007 Apply work health and safety regulations, codes and practices in the workplace	40
UEECD0051	Use drawings, diagrams, schedules, standards, codes and specifications └ UEECD0007 Apply work health and safety regulations, codes and practices in the workplace	40
UEGNSG004	Locate, prove and protect utility assets	60
UEGNSG006	Use a portable gas detector to locate escape	40
UEGNSG134	Establish a utilities infrastructure work site	60
UEGNSG140	Apply environmental policies and procedures in the utilities industry	20
UEGNSG203	Evaluate and extinguish gas fire	20
UEGNSG206	Construct and lay copper and stainless steel gas distribution pipelines	60
UEGNSG219	Conduct excavations in the utilities industry	60
UEGNSG226	Assist with the construction, laying and connection of gas distribution services to mains	40
UEGNSG227	Assist with the construction and laying of gas	40

distribution mains

UEGNSG230	First on site response to gas pipeline emergencies └ CPPFES2005 Demonstrate first attack firefighting equipment └ HLTAID011 Provide First Aid └ UEGNSG141 Apply workplace health and safety regulations, codes and practices in the gas supply industry	90
UEGNSG303	Carry out transmission pipeline construction work activities	60
UEGNSG316	Work in proximity of transmission pipeline construction plant and equipment	40
UEGNSG330	Coat metallic pipelines	80
UEGNSG331	Establish right of way access for transmission pipeline construction	60
UEGNSG342	Maintain pipeline easements	40
UEGNSG615	Fill LPG cylinders	80
UEGNSG616	Refurbish gas cylinders	80
UEGNSG701	Disconnect and reconnect data logging equipment	40
UEGNSG702	Disconnect and reconnect small capacity gas meters	40
UEGNSG703	Fault find and repair data logging equipment	100
UEGNSG704	Install and commission data logging equipment	80
UEGNSG707	Process data logging information	60
UEGNSG708	Pressure test residential and small commercial gas installations	40
UEGNSG709	Process meter reading information using appropriate technology	40
UEGNSG710	Read and record meter readings	40

UEGNSG714	Relight Type A gas appliances	60
UEGNSG715	Use data logging equipment	60
UEGNSG804	Maintain single stage and single run gas flow and pressure control and measuring devices	80
UEPOPS203	Operate and monitor communications system	20
UEPOPS205	Conduct minor mechanical maintenance	30
UETTDREL14	Working safely near live electrical apparatus as a non-electrical worker	40

Group C: General elective units**Weighting Points**

UEECD0050	Use and maintain the integrity of a portable gas detection device └ UEECD0007 Apply work health and safety regulations, codes and practices in the workplace	20
UEGNSG103	Install and commission stationary gas fuelled turbine engines └ CPCCWHS1001 Prepare to work safely in the construction industry └ HLTAID009 Provide cardiopulmonary resuscitation	60
UEGNSG135	Monitor and control gas odourisation	100
UEGNSG137	Operate and maintain gas station water bath heaters	60
UEGNSG139	Repair and maintain stationary gas fuelled turbine engines	60
UEGNSG142	Conduct isolations under the permit to work system for gas industry work sites └ MSMWHS217 Gas test atmospheres	80
UEGNSG200	Conduct butt fusion of large diameter polyethylene gas pipeline systems	20
UEGNSG201	Conduct distribution pipeline emergency repair └ UEGNSG225 Perform routine maintenance on distribution pipeline facilities and equipment	100

UEGNSG202	Conduct emergency site control on gas distribution assets	100
UEGNSG205	Commission or decommission gas distribution pipelines	100
UEGNSG208	Construct and lay large copper gas distribution pipelines	60
UEGNSG209	Construct and lay polyethylene gas distribution mains	60
UEGNSG211	Construct and lay steel gas distribution pipelines	60
UEGNSG212	Construct, lay and connect a gas distribution service to a plastic main	60
UEGNSG213	Construct, lay and connect a gas distribution service to a steel main	60
UEGNSG217	Launch and recover PIGs in a gas distribution pipeline	100
UEGNSG218	Carry out surveillance on gas distribution assets	90
UEGNSG222	Construct and lay nylon or PVC gas distribution mains	60
UEGNSG225	Perform routine maintenance on distribution pipeline facilities and equipment	100
UEGNSG229	Prepare simple drawings of as laid gas mains and services	40
UEGNSG301	Conduct emergency site control on gas transmission assets	120
UEGNSG304	Commission or decommission gas transmission pipelines	120
UEGNSG306	Control gas processing, storage or regasification operations in an LNG storage facility	100
UEGNSG312	Inject gas into underground storage	100
UEGNSG313	Monitor and operate flow control, pressure measuring and regulating devices for gas transmission └ UEGNSG006 Use a portable gas detector to locate escape	100
UEGNSG315	Withdraw gas from underground storage	100
UEGNSG317	First response to a gas facility event	60

	└ CPPFES2005 Demonstrate first attack firefighting equipment └ HLTAID011 Provide First Aid └ UEGNSG141 Apply workplace health and safety regulations, codes and practices in the gas supply industry	
UEGNSG346	Launch and recover PIGs in gas transmission pipelines	100
UEGNSG347	Perform routine maintenance on transmission pipeline facilities and equipment	110
UEGNSG348	Supervise the operation of plant and equipment for the construction of gas transmission pipelines	60
UEGNSG349	Carry out surveillance of gas transmission pipelines	110
UEGNSG352	Check and report on gas station conditions	40
UEGNSG353	Carry out aerial surveillance of gas transmission pipelines	60
UEGNSG354	Control excavations in the vicinity of gas transmission pipelines └ UEGNSG004 Locate, prove and protect utility assets	60
UEGNSG355	Monitor and report on cathodic protection systems	60
UEGNSG411	Maintain cathodic protection systems	100
UEGNSG412	Install cathodic protection systems	110
UEGNSG506	Respond to gas infrastructure emergencies	80
UEGNSG509	Remotely monitor and operate gas transmission flow and pressure measuring and regulating devices └ MSS402061 Use SCADA systems in operations	90
UEGNSG614	Load, unload, exchange and connect LPG cylinders	80
UEGNSG617	Monitor and control the transfer of bulk LPG	100
UEGNSG618	Process liquefied petroleum gas (LPG)	100
UEGNSG619	Perform scheduled maintenance on gas processing or storage facilities and equipment	110

UEGNSG620	Organise the repair of faults in LPG processing or storage facilities and equipment	80
UEGNSG621	Control bulk storage of LPG	110
UEGNSG622	Assess the operational capability of gas safety equipment on a delivery vehicle	40
UEGNSG706	Test new residential and small commercial gas installations	60
UEGNSG713	Investigate billing exceptions-conditions	60
UEGNSG805	Maintain multi-stage and multi-run gas flow and pressure measuring and regulating devices └ UEGNSG006 Use a portable gas detector to locate escape └ UEGNSG804 Maintain single stage and single run gas flow and pressure control and measuring devices	80
UEGNSG807	Install gas flow, measuring and pressure regulating devices └ UEGNSG006 Use a portable gas detector to locate escape	80
UEGNSG811	Monitor and operate complex flow control, measuring and regulating devices for gas distribution	110
UEGNSG902	Commission, operate and maintain electrolyzers	90
UEGNSG903	Fault find and repair hydrogen storage equipment	110
UEGNSG904	Inject hydrogen gas into distribution networks	110
UEPMNT367	Install and commission stationary gas fuelled reciprocating engines └ CPCCWHS1001 Prepare to work safely in the construction industry └ HLTAID001 Provide cardiopulmonary resuscitation	60
UEPMNT368	Repair and maintain stationary gas fuelled reciprocating engines └ CPCCWHS1001 Prepare to work safely in the construction industry └ HLTAID001 Provide cardiopulmonary resuscitation	60

UEPOPS317	Operate and monitor fixed fire protection systems	30
UEPOPS336	Manage, operate and monitor a gas turbine unit	60
UEPOPS347	Operate and monitor supervisory, control and data acquisition systems	40

Group D: General elective units**Weighting Points**

MSL974019	Perform chemical tests and procedures	100
MSL975040	Apply routine chromatographic techniques	100
	└ MSL974019 Perform chemical tests and procedures	
MSL975047	Apply complex instrumental techniques	80
	└ MSL974019 Perform chemical tests and procedures	
UEGNSG106	Coordinate repair of pipeline, facilities and equipment	110
UEGNSG108	Operate and monitor pipeline control systems	60
UEGNSG109	Control field pipeline operations	60
UEGNSG110	Supervise technical operations for gas distribution or transmission	60
UEGNSG131	Compile a gas industry technical report	20
UEGNSG210	Supervise and monitor contract staff for work on distribution pipelines	120
UEGNSG214	Coordinate and conduct gas distribution pipeline repair and modifications	110
UEGNSG215	Coordinate construction, laying and testing of gas distribution pipelines	110
UEGNSG302	Conduct transmission pipeline emergency repair	120
UEGNSG305	Coordinate gas transmission pipeline repairs and modifications	110
UEGNSG307	Coordinate the operation of relevant plant and equipment for transmission pipeline construction	80
UEGNSG309	Coordinate transmission pipeline construction operations	60

UEGNSG310	Supervise and monitor contract work	60
UEGNSG314	Liaise with third party and the community to maintain pipeline integrity and community safety	40
UEGNSG326	Coordinate and monitor staff and contractors	60
UEGNSG501	Communicate with gas industry stakeholders to meet operational requirements	110
UEGNSG503	Monitor and control field activities	110
UEGNSG504	Monitor and control gas infrastructure using Control Centre systems	110
UEGNSG505	Operate and monitor gas infrastructure to meet nominated demand └ MSS402061 Use SCADA systems in operations	120
UEGNSG806	Maintain SCADA controlled flow and pressure equipment and electronic gas measurement equipment └ UEGNSG006 Use a portable gas detector to locate escape	100

Qualification Mapping Information

This qualification replaces and is equivalent to UEG40220 Certificate IV in Gas Supply Industry Operations

Links

Companion Volume Implementation Guides are found in VETNet -
<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=6a6c032e-ffcb-4f3d-8063-415efbd261e8>

UEG50120 Diploma of Gas Supply Industry Operations

Modification History

Release 3. This is the third release of this qualification in the UEG Gas Industry Training Package.

- Superseded units updated.

Release 2. This is the second release of this qualification in the UEG Gas Industry Training Package.

- Removed deleted unit(s) from the qualification: UEGNSG611, UEGNSG114, UEGNSG319, UEGNSG324, UEGNSG308, UEGNSG116, UEGNSG115, UEGNSG111, UEGNSG508, UEGNSG311, UEGNSG612, UEGNSG332. Existing units added to Group E: UEGNSG121, UEGNSG202, UEGNSG301.

Release 1. This is the first release of this qualification in the UEG Gas Industry Training Package

Qualification Description

This qualification provides competencies to manage gas supply industry activities, including management of projects covering the installation, diagnostics and maintenance of distribution and transmission gas pipelines and associated equipment.

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

Entry Requirements

There are no entry requirements for this qualification

Packaging Rules

A total of 1600 weighting points comprising:

280 core weighting points listed below; plus

1320 elective weighting points from the elective units listed below.

Choose a minimum of 1320 **weighting points** elective units from the list below, of which between 0 and 260 **weighting points** can be taken from Group A, between 0 and 180 **weighting points** can be taken from Group B, between 330 and 670 **weighting points** can be taken from Group C, between 300 and 810 **weighting points** can be taken from Group D, and between 180 and 340 **weighting points** can be taken from Group E.

Up to 260 weighting points of the elective units Group A, may be selected, with appropriate contextualisation, from any relevant nationally endorsed Training Package or accredited course, provided selected units contribute to the vocational outcome of the qualification. Previously

assigned weighting points are listed in the UEG CVIG, if not listed weighting points will be 10 points unless directed from the Gas Industry Reference Committee (IRC). The general elective units must contribute to the vocational outcomes of the qualification.

Where imported units are selected, care must be taken to ensure all prerequisite units specified are complied with.

Where a prerequisite unit is attached to a unit, it is identified by this symbol $\perp$.

Core units **Weighting Points**

UEGNSG005	Prepare to work in the gas industry	20
UEGNSG113	Manage a utilities industry WHS management system	80
UEGNSG120	Manage gas system environmental compliance	60
UEGNSG132	Carry out basic work activities in a gas industry work environment	60
UEGNSG133	Comply with environmental policies and procedures in the utilities industry	40
UEGNSG141	Apply workplace health and safety regulations, codes and practices in the gas supply industry	20

Group A: Imported and common elective units. **Weighting Points**

BSBHRM523	Coordinate the learning and development of teams and individuals	60
BSBINS501	Implement information and knowledge management systems	50
BSBLDR522	Manage people performance	70
BSBOPS502	Manage business operational plans	60
BSBOPS505	Manage organisational customer service	40
BSBPEF501	Manage personal and professional development	60
BSBSTR301	Contribute to continuous improvement	40
BSBSTR501	Establish innovative work environments	50
BSBSTR502	Facilitate continuous improvement	60

BSBTWK502	Manage team effectiveness	60
BSBWHS521	Ensure a safe workplace for a work area	60
PMAOMIR512	Establish incident response preparedness and response systems	70
PMAOPS223	Operate and monitor valve systems	40

Group B: General elective units.**Weighting Points**

UEECD0007	Apply work health and safety regulations, codes and practices in the workplace	20
UEECD0019	Fabricate, assemble and dismantle utilities industry components └ UEECD0007 Apply work health and safety regulations, codes and practices in the workplace	40
UEECD0051	Use drawings, diagrams, schedules, standards, codes and specifications └ UEECD0007 Apply work health and safety regulations, codes and practices in the workplace	40
UEGNSG004	Locate, prove and protect utility assets	60
UEGNSG006	Use a portable gas detector to locate escape	40
UEGNSG134	Establish a utilities infrastructure work site	60
UEGNSG140	Apply environmental policies and procedures in the utilities industry	20
UEGNSG206	Construct and lay copper and stainless steel gas distribution pipelines	60
UEGNSG219	Conduct excavations in the utilities industry	60
UEGNSG226	Assist with the construction, laying and connection of gas distribution services to mains	40
UEGNSG227	Assist with the construction and laying of gas distribution mains	40
UEGNSG230	First on site response to gas pipeline emergencies └ CPPFES2005 Demonstrate first attack firefighting	90

	equipment	
	└ HLTAID011 Provide First Aid	
	└ UEGNSG141 Apply workplace health and safety regulations, codes and practices in the gas supply industry	
UEGNSG303	Carry out transmission pipeline construction work activities	60
UEGNSG316	Work in proximity of transmission pipeline construction plant and equipment	40
UEGNSG330	Coat metallic pipelines	80
UEGNSG331	Establish right of way access for transmission pipeline construction	60
UEGNSG342	Maintain pipeline easements	40
UEGNSG615	Fill LPG cylinders	80
UEGNSG616	Refurbish gas cylinders	80
UEGNSG702	Disconnect and reconnect small capacity gas meters	40
UEGNSG708	Pressure test residential and small commercial gas installations	40
UEGNSG709	Process meter reading information using appropriate technology	40
UEGNSG710	Read and record meter readings	40
UEGNSG714	Relight Type A gas appliances	60
UEGNSG804	Maintain single stage and single run gas flow and pressure control and measuring devices	80
UEPOPS203	Operate and monitor communications system	20
UEPOPS205	Conduct minor mechanical maintenance	30
UETTDREL14	Working safely near live electrical apparatus as a non-electrical worker	40

Group C: General elective units**Weighting Points**

UEECD0050	Use and maintain the integrity of a portable gas detection device └ UEECD0007 Apply work health and safety regulations, codes and practices in the workplace	20
UEGNSG103	Install and commission stationary gas fuelled turbine engines └ CPCCWHS1001 Prepare to work safely in the construction industry └ HLTAID009 Provide cardiopulmonary resuscitation	60
UEGNSG135	Monitor and control gas odourisation	100
UEGNSG137	Operate and maintain gas station water bath heaters	60
UEGNSG139	Repair and maintain stationary gas fuelled turbine engines	60
UEGNSG142	Conduct isolations under the permit to work system for gas industry work sites └ MSMWHS217 Gas test atmospheres	80
UEGNSG205	Commission or decommission gas distribution pipelines	100
UEGNSG208	Construct and lay large copper gas distribution pipelines	60
UEGNSG209	Construct and lay polyethylene gas distribution mains	60
UEGNSG211	Construct and lay steel gas distribution pipelines	60
UEGNSG212	Construct, lay and connect a gas distribution service to a plastic main	60
UEGNSG213	Construct, lay and connect a gas distribution service to a steel main	60
UEGNSG217	Launch and recover PIGs in a gas distribution pipeline	100
UEGNSG218	Carry out surveillance on gas distribution assets	90
UEGNSG222	Construct and lay nylon or PVC gas distribution mains	60
UEGNSG225	Perform routine maintenance on distribution pipeline facilities and equipment	100

UEGNSG229	Prepare simple drawings of as laid gas mains and services	40
UEGNSG304	Commission or decommission gas transmission pipelines	120
UEGNSG313	Monitor and operate flow control, pressure measuring and regulating devices for gas transmission └ UEGNSG006 Use a portable gas detector to locate escape	100
UEGNSG317	First response to a gas facility event └ CPPFES2005 Demonstrate first attack firefighting equipment └ HLTAID011 Provide First Aid └ UEGNSG141 Apply workplace health and safety regulations, codes and practices in the gas supply industry	60
UEGNSG346	Launch and recover PIGs in gas transmission pipelines	100
UEGNSG347	Perform routine maintenance on transmission pipeline facilities and equipment	110
UEGNSG348	Supervise the operation of plant and equipment for the construction of gas transmission pipelines	60
UEGNSG349	Carry out surveillance of gas transmission pipelines	110
UEGNSG352	Check and report on gas station conditions	40
UEGNSG353	Carry out aerial surveillance of gas transmission pipelines	60
UEGNSG354	Control excavations in the vicinity of gas transmission pipelines └ UEGNSG004 Locate, prove and protect utility assets	60
UEGNSG355	Monitor and report on cathodic protection systems	60
UEGNSG411	Maintain cathodic protection systems	100
UEGNSG412	Install cathodic protection systems	110
UEGNSG506	Respond to gas infrastructure emergencies	80

UEGNSG509	Remotely monitor and operate gas transmission flow and pressure measuring and regulating devices └ MSS402061 Use SCADA systems in operations	90
UEGNSG614	Load, unload, exchange and connect LPG cylinders	80
UEGNSG617	Monitor and control the transfer of bulk LPG	100
UEGNSG618	Process liquefied petroleum gas (LPG)	100
UEGNSG619	Perform scheduled maintenance on gas processing or storage facilities and equipment	110
UEGNSG620	Organise the repair of faults in LPG processing or storage facilities and equipment	80
UEGNSG621	Control bulk storage of LPG	110
UEGNSG622	Assess the operational capability of gas safety equipment on a delivery vehicle	40
UEGNSG706	Test new residential and small commercial gas installations	60
UEGNSG713	Investigate billing exceptions-conditions	60
UEGNSG805	Maintain multi-stage and multi-run gas flow and pressure measuring and regulating devices └ UEGNSG006 Use a portable gas detector to locate escape └ UEGNSG804 Maintain single stage and single run gas flow and pressure control and measuring devices	80
UEGNSG807	Install gas flow, measuring and pressure regulating devices └ UEGNSG006 Use a portable gas detector to locate escape	80
UEGNSG811	Monitor and operate complex flow control, measuring and regulating devices for gas distribution	110
UEPMNT367	Install and commission stationary gas fuelled reciprocating engines └ CPCCWHS1001 Prepare to work safely in the construction industry └ HLTAID001 Provide cardiopulmonary resuscitation	60

UEPMNT368	Repair and maintain stationary gas fuelled reciprocating engines └ CPCCWHS1001 Prepare to work safely in the construction industry └ HLTAID001 Provide cardiopulmonary resuscitation	60
UEPOPS317	Operate and monitor fixed fire protection systems	30
UEPOPS336	Manage, operate and monitor a gas turbine unit	60
UEPOPS347	Operate and monitor supervisory, control and data acquisition systems	40

Group D: General elective units**Weighting Points**

MSL974019	Perform chemical tests and procedures	100
MSL975040	Apply routine chromatographic techniques └ MSL974019 Perform chemical tests and procedures	100
MSL975047	Apply complex instrumental techniques └ MSL974019 Perform chemical tests and procedures	80
UEECD0024	Implement and monitor energy sector WHS policies and procedures	20
UEGNSG106	Coordinate repair of pipeline, facilities and equipment	110
UEGNSG108	Operate and monitor pipeline control systems	60
UEGNSG109	Control field pipeline operations	60
UEGNSG110	Supervise technical operations for gas distribution or transmission	60
UEGNSG131	Compile a gas industry technical report	20
UEGNSG210	Supervise and monitor contract staff for work on distribution pipelines	120
UEGNSG214	Coordinate and conduct gas distribution pipeline repair and modifications	110
UEGNSG215	Coordinate construction, laying and testing of gas distribution pipelines	110

UEGNSG305	Coordinate gas transmission pipeline repairs and modifications	110
UEGNSG307	Coordinate the operation of relevant plant and equipment for transmission pipeline construction	80
UEGNSG309	Coordinate transmission pipeline construction operations	60
UEGNSG310	Supervise and monitor contract work	60
UEGNSG314	Liaise with third party and the community to maintain pipeline integrity and community safety	40
UEGNSG326	Coordinate and monitor staff and contractors	60
UEGNSG501	Communicate with gas industry stakeholders to meet operational requirements	110
UEGNSG503	Monitor and control field activities	110
UEGNSG504	Monitor and control gas infrastructure using Control Centre systems	110
UEGNSG505	Operate and monitor gas infrastructure to meet nominated demand └ MSS402061 Use SCADA systems in operations	120
UEGNSG806	Maintain SCADA controlled flow and pressure equipment and electronic gas measurement equipment └ UEGNSG006 Use a portable gas detector to locate escape	100

Group E: General elective units**Weighting Points**

UEGNSG102	Prepare safe design specifications of a gas system	120
UEGNSG202	Conduct emergency site control on gas distribution assets	100
UEGNSG301	Conduct emergency site control on gas transmission assets	120
UEGNSG502	Implement emergency and critical incident response for gas infrastructure incidents	120

Qualification Mapping Information

This qualification replaces and is equivalent to UEG50118 Diploma of Gas Supply Industry

Operations

Links

Companion Volume Implementation Guides are found in VETNet -

<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=6a6c032e-ffcb-4f3d-8063-415efbd261e8>

UEGNSG101 Undertake gas leak surveys

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 undertake gas leak surveys within the gas supply industry, operate gas detection equipment within guidelines and evaluate survey readings. No licensing, legislative or certification requirements apply to this unit at the time of publication.

Pre-requisite Unit

Not applicable.

Competency Field

Gas Cross Discipline

Unit Sector

Gas Industry

Elements and Performance Criteria

ELEMENTS

Elements describe the essential outcomes.

1 Prepare to carry out gas leak survey

PERFORMANCE CRITERIA

Performance criteria describe the performance needed to demonstrate achievement of the element.

- 1.1** Work health and safety (WHS)/occupational health and safety (OHS) workplace procedures and environmental, sustainable energy policies and procedures, cultural and heritage measures for the site are reviewed
- 1.2** Job requirements and workplace procedures for the leak survey are discussed with relevant person/s to confirm the work schedule
- 1.3** Work is prioritised and sequenced for completion within

agreed timeframes following consultation with relevant person/s in accordance with workplace procedures

- 1.4** Relevant plans and resources required for the survey are confirmed, scheduled and obtained in accordance with workplace procedures
- 1.5** Relevant access permissions are obtained to perform leak survey in accordance with workplace procedures
- 1.6** Detection equipment is identified, obtained and checked for current calibration, correct operation and safety in accordance with workplace procedures
- 1.7** Personal protective equipment (PPE) required for the leak survey are identified, obtained and checked for correct operation and safety in accordance with workplace procedures
- 1.8** WHS/OHS, environmental risks and hazards are identified, assessed and control measures prioritised and implemented in accordance with workplace procedures
- 1.9** Person/s participating in the leak survey work are briefed and responsibilities confirmed in accordance with workplace procedures

2 Carry out gas leak survey

- 2.1** WHS/OHS, workplace, environmental, sustainable energy policies, cultural and heritage measures for the site are followed and procedures applied
- 2.2** Materials, plant, tools, equipment, detection equipment and PPE are used in accordance with workplace procedures and manufacturer instructions
- 2.3** Leak survey work is carried out to the required standard, without damage to apparatus, equipment, and the surrounding environment and services using sustainable energy principles
- 2.4** Leakages and damaged assets, structures, systems and fittings are reported in accordance with the work schedule and workplace procedures
- 2.5** WHS/OHS risks and hazards are monitored and reported to authorised person/s for directions in accordance with workplace procedures

	2.6	Survey readings are evaluated and classified, key issues are identified and solutions and options developed, and communicated to relevant stakeholders in accordance with workplace procedures and appropriate actions implemented
	2.7	Incidents and unplanned events in the gas leak survey work are dealt with in accordance with workplace procedures
	2.8	Dealings with the public are consistent with workplace procedures
3 Complete work and relevant documentation	3.1	Completed work is checked for compliance against the work plan and workplace procedures
	3.2	Appropriate tools, detection instruments, equipment and vehicles, if required, are cleaned, checked and securely stored in accordance with workplace procedures
	3.3	Survey reports, work records and documentation are completed and appropriate personnel notified in accordance with workplace procedures

Foundation Skills

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

Range of Conditions

Range is restricted to essential operating conditions and any other variables essential to the work environment.

Non-essential conditions may be found in the UEG - Gas Industry Training Package Companion Volume Implementation Guide.

Unit Mapping Information

This is a new unit.

Links

Companion Volume Implementation Guides are found in VETNet - <https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=6a6c032e-ffcb-4f3d-8063-415efbd261e8>

Assessment Requirements for UEGNSG101 Undertake gas leak surveys

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 and performance criteria on at least one occasion and includes:

- applying planning skills
- applying problem-solving techniques and implementing solutions
- 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
 - maintaining a safe work environment
 - working safely with hazardous materials and equipment
- applying sustainable energy and environmental, cultural and heritage principles and practices
- carrying out gas leak survey
- checking, testing and verifying equipment as per procedures
- communicating effectively with stakeholders
- completing required documentation and reporting
- dealing with unplanned events and situations in accordance with workplace procedures in a manner that minimises risk to personnel and equipment
- evaluating survey results
- following work schedule, safety plan and job requirements
- identifying and using venting locations including, but not limited to, pits, drains and cracks in pavements
- identifying leaks, breaches, threats, faults and possible causes
- interpreting relevant drawings, plans and diagrams
- responding to and classifying survey readings
- selecting and using correct materials, equipment, tools, personal protection equipment (PPE) and measuring devices
- working in accordance with relevant access permissions
- working within agreed timeframes.

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:

- asset plans and diagrams
- cultural and heritage requirements in relation to gas leak survey
- gas industry infrastructure
- gas leak classifications
- gas leak survey techniques, including different types of survey methods and responses to survey information
- leak survey problem-solving techniques
- relevant equipment specifications
- relevant industry standards, guidelines, codes of practice and regulations
- relevant stakeholder awareness, including authorised persons, authorities, land owners and clients, including access permissions
- relevant WHS/OHS legislated requirements, including:
 - environmental and sustainable energy principles and practices
 - hazard warnings and safety signs
 - hazards, risk assessment and control measures
 - safe work method statements (SWMS) and job safety assessments
- relevant workplace documentation, including safety plans, work schedules and jobs requirements
- safe operation and use of relevant tools, equipment, detection instruments, measuring devices and PPE
- techniques to evaluate survey information
- types and characteristics of gases.

Assessment Conditions

Assessors must hold credentials specified within the Standards for Registered Training Organisations current at the time of assessment.

Assessment must satisfy the Principles of Assessment and Rules of Evidence and all regulatory requirements included within the Standards for Registered Training Organisations current at the time of assessment.

Assessment evidence must be gathered on an existing gas network in the workplace.

Assessment 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 may include access to:

- a range of relevant exercises, case studies and/or other simulations
- relevant and appropriate materials, tools, equipment and personal protective equipment (PPE) currently used in industry for undertaking gas leak surveys
- applicable documentation, including workplace procedures, equipment specifications,

regulations, codes of practice and operation manuals.

Assessment is to be based on the performance of the individual candidate. If assessment tasks are undertaken as a group, each candidate must be assessed in each component of the task.

Links

Companion Volume Implementation Guides are found in VETNet -

<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=6a6c032e-ffcb-4f3d-8063-415efbd261e8>

UEGNSG102 Prepare safe design specifications of a gas system

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 prepare safe design specifications of a gas system.

It includes identifying safe system/installation design specifications, preparing gas system input and output performance criteria, and assessing environment impact of a gas system. It also includes identifying and evaluating gas system options and preparing system specifications for fuel gases.

This unit applies to safe work site where gas industry operations occur. It could also apply to other workplaces in the electricity supply industry (transmission and distribution and generation), the electrotechnology industry and the water industry, subject to work health and safety (WHS)/occupational health and safety (OHS) and duty of care requirements being met for the workplace.

The application of the skills and knowledge described in this unit may require a licence/registration to practise in the workplace.

Other conditions may apply under state and territory legislative and regulatory licensing requirements which must be confirmed prior to commencing this unit.

Pre-requisite Unit

Not applicable

Competency Field

Cross Discipline

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 gas system input and output performance criteria

- 1.1** WHS/OHS principles and practices and environmental and sustainable energy workplace procedures which may influence the systems are reviewed and determined
- 1.2** Proposed gas system usage is analysed and technical requirements of the system are investigated and expected outcomes of design work are confirmed with the appropriate persons
- 1.3** Workplace policies and procedures for specifications of a gas system design are obtained or determined with appropriate persons
- 1.4** Testing parameters are determined and discussed with appropriate person/s to ascertain the gas system project brief in accordance with workplace policies and procedures
- 1.5** Equipment, tools and personal protective equipment (PPE) are selected and coordinated based on specified requirements and workplace procedures
- 1.6** Work roles and tasks are allocated in accordance with design requirements and person/s competency
- 1.7** Work is prioritised and sequenced for the most effective outcome, completed within an acceptable timeframe to an industry quality standard and in accordance with workplace procedures
- 1.8** Liaison and communication with authorised persons, authorities, clients and land owners are undertaken to resolve gas system issues and coordinate design work activities
- 1.9** Risk control measures are identified, prioritised and evaluated against the work schedule
- 1.10** Relevant work permits are secured to coordinate the performance of work in accordance with requirements and workplace procedures

2 Assess impact of gas system on the environment

- 2.1** Gas system logistics are determined and environmental impact on interconnected systems is assessed
- 2.2** WHS/OHS and sustainable energy principles,

functionality and practices to reduce the incidents of accidents and minimise waste are incorporated into the gas system project in accordance with workplace requirements and procedures

- 2.3 Practicable design decisions are made on basis of safety and effective outcomes in accordance with workplace requirements and procedures
- 2.4 Mathematical modelling is used to analyse the effectiveness of the design specification in accordance with workplace requirements and procedures
- 2.5 Technical advice is obtained related to hazards, assessed risks and reasonably practicable risk control measures so that monitoring can be undertaken and appropriate authorities consulted, as required, in accordance with workplace requirements and procedures
- 2.6 Specific data is analysed and compared with compliance specifications to ensure completion of the project within an agreed timeframe in accordance with requirements
- 2.7 Environmental testing is undertaken in accordance with workplace requirements and procedures
- 2.8 Work teams are arranged to ensure planned goals are met in accordance with workplace procedures
- 2.9 Solutions to unplanned events are responded to in accordance with workplace procedures, in a manner that minimises risk to personnel and equipment
- 2.10 Quality of work is monitored against performance agreement and workplace organisational and industry standards
- 2.11 Environmental strategic plans are developed incorporating organisational initiatives in accordance with workplace procedures

3 Identify and evaluate gas system options and prepare specifications

- 3.1 Review of gas system is undertaken to ensure design complies with requirements and includes specifications and documentation needed to complete the gas project
- 3.2 Design and construction resources option/s are identified, availability and price is determined, and maintenance requirements are documented

- 3.3 Cost-benefit analysis is prepared and evaluation criteria are determined, any shortfalls in recommended option/s are justified and compliance requirements are met
- 3.4 Appropriate persons are notified of design completion and gas system reports and completion documents are finalised
- 3.5 Reports and completion documents are submitted to relevant persons for approval and as required, statutory or regulatory approval
- 3.6 Approved copies of documents are issued and controlled, and records are updated in accordance with workplace procedures

Foundation Skills

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

Range of Conditions

Range is restricted to essential operating conditions and any other variables essential to the work environment.

Non-essential conditions may be found in the UEG Gas Industry Training Package Companion Volume Implementation Guide.

constants and variables must include:

- gas system
- environmental hazards
- system logistics
- resources
- relevant documentation
- legislative compliance
- safe design principles
- relevant authorities

gas systems must include at least six (6) of the following (at least the first three, OR the last three):

- natural gas systems
- transmission and distribution pipelines
- control systems
- custody transfer stations
- odourising plant
- corrosion control
- hydrogen gas systems
- interconnecting system

environmental hazards must include at least three (3) of the following:

- LPG storage greater than 50 kL
- underground storage
- tankers and ships
- hazards associated with LPG
- hazards associated with natural gas
- geological features
- soil types
- neighbouring plants
- residential areas
- separation distances and emission and contamination hazards

gas system logistics must include at least one (1) of the following:

- hazards associated with hydrogen gas
- land and sea transport routes and equipment
- transmission and distribution pipelines
- land ownership and easements

relevant persons must include at least two (2) of the following:

- company planners and marketers
- department heads
- business unit managers
- company engineers and consultant engineers
- technical specialists
- statutory authorities and environmental specialists

legislative requirements must include at least two (2) of the following:

- WHS/OHS legislation
- relevant government acts, regulations and codes of practice
- local government traffic management

relevant authorities must include at least two (2) of the following:

- local and shire councils
- local government authorities
- emergency transport authorities
- rail departments
- landowners/traditional land owners

relevant documentation must include at least eight (8) of the following:

- contracts
- specifications/drawings/plans
- manufacturer specifications
- work permits
- company standard operation and safety procedures
- company management plans and policies
- hot work permits
- company forms and files
- WHS/OHS legislation and codes of practice
- other government legislation

- pipeline licenses
- quality assurance
- commercial agreements

Unit Mapping Information

This unit replaces and is equivalent to UEGNSG121 Prepare safe design specifications of a gas system

Links

Companion Volume Implementation Guides are found in VETNet -
<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=6a6c032e-ffcb-4f3d-8063-415efbd261e8>

Assessment Requirements for UEGNSG102 Prepare safe design specifications of a gas system

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 relevant work health and safety (WHS)/occupational health and safety (OHS) requirements, including using of risk control measures
- applying sustainable energy principles and practices
- assessing the impact of the gas system on the external environment
- complying with regulations, industry standards, legislative requirements, codes of practice, manufacturers' recommendations and specifications, and environmental requirements
- dealing effectively with unplanned events in accordance with workplace procedures, in a manner that minimises risk to personnel and equipment
- evaluating gas system options
- identifying and engaging with relevant stakeholders
- identifying options for the gas system
- preparing design specifications, input and output performance criteria for the gas system
- read, analyse, interpret and record data.

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:

- applicable gas chemistry, properties and characteristics
- chemical and physical behaviours of different types of fuel gases
- engineering principles and operating principles of pipeline systems
- environmental impacts of gas installations and infrastructure on the environment
- gas system design specifications
- gas system environmental compliance
- processes to undertake a cost benefit analysis
- regulations, industry standards, legislative requirements, codes of practice, manufacturers' recommendations and specifications, and environmental requirements

- relevant job safety assessments or risk mitigation processes
- relevant mathematical techniques and principles
- relevant WHS/OHS legislated, industry standards and codes of practice for the gas industry requirements
- relevant workplace documentation
- relevant workplace policies and procedures
- safe design principles
- sustainable energy principles and practices
- theory and study of hazard and operability (HAZOP) and hazard analysis (HAZAN).

Assessment Conditions

Assessors must hold credentials specified within the Standards for Registered Training Organisations current at the time of assessment.

Assessment must satisfy the Principles of Assessment and Rules of Evidence and all regulatory requirements included within the Standards for Registered Training Organisations current at the time of assessment.

Assessment must occur in workplace operational situations where it is appropriate to do so; where this is not appropriate, assessment must occur in simulated workplace operational situations that replicate workplace conditions.

Assessment processes and techniques must be appropriate to the language, literacy and numeracy requirements of the work being performed and the needs of the candidate.

Resources for assessment must include access to:

- a range of relevant exercises, case studies and/or other simulations
- relevant and appropriate materials, tools, equipment and personal protective equipment (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>

UEGNSG103 Install and commission stationary gas fuelled turbine engines

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 install and commission stationary gas fuelled turbine engine, up to a capacity of 5 gigajoule per hour (GJ/hr) (1,300 kilowatt).

It includes installing and commissioning stationary gas fuelled turbine engine to installation industry standards matching the plant/equipment, location, components and fuel train pipe-work to given specifications. Commissioning gas fuelled turbine engine plant and equipment includes pre-commissioning tests, start up, adjusting components and controls to safe and efficient operation, and completing all necessary installation and commissioning documentation.

The application of the skills and knowledge described in this unit may require a license or permit to practice in the workplace.

Other conditions may apply under state and territory legislative and regulatory licencing requirements which must be confirmed prior to commencing this unit.

Pre-requisite Unit

CPCCWHS1001 Prepare to work safely in the construction industry

HLTAID009 Provide cardiopulmonary resuscitation

Competency Field

Cross Discipline Units

Unit Sector

Gas Industry

Elements and Performance Criteria

ELEMENTS

PERFORMANCE CRITERIA

Elements describe the essential Performance criteria describe the performance needed to

outcomes.

demonstrate achievement of the element.

1 Prepare to install stationary gas fuelled turbine engine

- 1.1** Work health and safety (WHS)/occupational health and safety (OHS) workplace procedures for a given work area are identified, obtained and applied
- 1.2** Hazards are identified, risks are assessed and existing risk control measures and workplace procedures are implemented in preparation for work
- 1.3** Safety hazards that have not previously been identified are noted on job safety assessments and existing risk control measures are implemented
- 1.4** Design specification for proposed gas fuelled turbine engine installation is accessed, analysed, interpreted and confirmed during site inspection
- 1.5** Design specification matters requiring clarification are resolved in consultation with designer and relevant gas authorities
- 1.6** Formal authority to proceed with installation and commissioning is obtained before commencing work in accordance with regulatory and code of practice requirements
- 1.7** Installation is prepared in consultation with person/s affected by work activity and sequenced appropriately in accordance with quality assurance requirements
- 1.8** Scope, nature and location of the work is determined from documentation or relevant person/s
- 1.9** Gas fuelled turbine engine plant, equipment and component specifications and manufacturer manuals are obtained for planned work activity
- 1.10** Locations of plant, equipment, fuel train pipe-work and components are planned within the constraints of work site, significant and requirements
- 1.11** Gas fuelled turbine engine materials needed for the installation work are obtained in accordance with design specification and workplace procedures
- 1.12** Tools, equipment, personal protective equipment (PPE) and testing devices needed to for installation and commissioning work are obtained in accordance with workplace procedures and checked for correct operation

and safety

1.13 Work area is prepared for installation of gas fuelled turbine engine plant and equipment

1.14 Preparatory work is checked to ensure no damage has occurred and complies with job requirements and specifications

2 Install stationary gas fuelled turbine engine

2.1 WHS/OHS risk control measures and workplace procedures for carrying out work activities are followed

2.2 Relevant gas regulator and code of practice recording and reporting requirements are undertaken at appropriate times throughout the work sequence

2.3 Gas and electrical circuits/machines/plant are isolated in accordance WHS/OHS requirements and workplace procedures

2.4 Stationary gas fuelled turbine engine components, fuel train and associated pipe-work and flue/exhaust systems are installed in accordance with design specification, industry technical standards and regulatory requirements, with sufficient access to affect terminations, adjustment and maintenance

2.5 Ventilation systems are installed in accordance with design specification

2.6 Electrical components, wiring enclosures and wiring terminations are installed in accordance with design and manufacturer specifications, and functional and regulatory requirements

2.7 Compliance and safety inspections of installed turbine engine, equipment, pipe-work, components and accessories are undertaken and defects are rectified

2.8 Installation is carried out efficiently without unnecessary waste of materials or damage to plant, equipment, pipe-work, components, accessories and the surrounding environment or services using sustainable energy principles

2.9 Unplanned situations are responded to in accordance with workplace procedures, in a manner that minimises risk to personnel and equipment safely and with the approval of an authorised person

- 3 Commission stationary gas fuelled turbine engine**
- 3.1** WHS/OHS risk control measures and workplace procedures for carrying out work activities are followed
 - 3.2** Relevant gas regulator and code of practice recording and reporting requirements are satisfied at appropriate times throughout the work sequence
 - 3.3** Gas and electrical safety checks and isolation workplace procedures and purging are completed and recorded to manufacturer and relevant authority requirements before testing and commissioning are commenced
 - 3.4** Operational parameters of individual components are tested and adjusted to conform with specifications
 - 3.5** Turbine engine operations are tested, first without and then with fuel, adjustments are completed, as necessary, and results recorded in accordance with approving authority requirements
 - 3.6** Exhaust gases are analysed in accordance with relevant industry practice and authority requirements
 - 3.7** Unplanned situations are responded to in accordance with workplace procedures, in a manner that minimises risk to personnel and equipment safely and with the approval of an authorised person
 - 3.8** Commissioning is conducted without waste of materials or damage to apparatus and the surrounding environment or services using sustainable energy practices
- 4 Complete and report installation and commissioning activities**
- 4.1** WHS/OHS work completion risk control measures and workplace procedures are followed
 - 4.2** Final check of the installed gas fuelled turbine engine is made to verify compliance with job requirements, certification required by relevant gas authorities and industry standards
 - 4.3** Work area is cleared and materials disposed of or recycled in accordance with relevant legislation and workplace procedures
 - 4.4** Tools and equipment are cleaned, checked, serviced and stored in accordance with manufacturer recommendations and workplace procedures

- 4.5 Work site is cleaned and made safe in accordance with workplace procedures
- 4.6 'As-installed' gas fuelled turbine engine equipment, components, pipe-work, flue/exhaust systems and accessories are documented, accessed and appropriate person/s notified in accordance with workplace procedures

Foundation Skills

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

Range of Conditions

Range is restricted to essential operating conditions and any other variables essential to the work environment.

Non-essential conditions may be found in the UEG Gas Industry Training Package Companion Volume Implementation Guide.

gas fuels must be from one (1) the following:

- gas gathering lines
- gas transmission pipelines
- distribution pipeline
- consumer gas installations

gas fuels must include one (1) the following:

- natural gas
- liquified petroleum gas (LPG)
- synthetic natural gas (SNG)
- bio-gas
- waste gas or sewage gas

used as a single gas fuel or part of a dual fuel system

Unit Mapping Information

This unit replaces and is equivalent to UEGNSG138 Install and commission stationary gas fuelled turbine engines.

Links

Companion Volume Implementation Guides are found in VETNet -

<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=6a6c032e-ffcb-4f3d-8063-415efbd261e8>

Assessment Requirements for UEGNSG103 Install and commission stationary gas fuelled turbine engines

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 relevant work health and safety (WHS)/occupational health and safety (OHS) requirements, including:
 - applying workplace procedures and practices
 - using risk control measures
- applying sustainable energy principles and practices
- commissioning gas fuelled turbine engine plant and equipment operation, as necessary, and recording results in accordance with approving authority requirements
- conducting pressure testing, repairing leaks and purging the fuel train system entire system to the appropriate design test pressures
- dealing effectively with unplanned events in accordance with workplace procedures, in a manner that minimises risk to personnel and equipment
- documenting 'as-installed' gas fuelled turbine engine plant, equipment, pipe-work, components and accessories
- installing, securing, aligning and connecting plant, equipment, pipe-work, components and accessories accurately in their planned location and in compliance with codes of practice and relevant industry standards
- obtaining formal authority to proceed with gas fuelled turbine engine installation and commissioning before commencing work, in accordance with regulatory and code of practice requirements
- reading and interpreting documents related to gas fuelled turbine engine plant/equipment, locations and pipe-work connections
- rectifying any defects revealed through on-going inspections
- undertaking on-going gas fuelled turbine engine compliance and safety inspections.

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:

- commissioning, including:
 - inspection of the installed turbine engines, pipe-work, components and accessories
 - testing turbine engine operation first without and then with fuel
 - testing and adjusting regulator, operation and safety controls
 - exhaust gases analysis throughout operating parameters, including bi-fuel applications
 - compliance with design specification, regulations, codes, standards and manufacturers specifications
- authority to proceed, including regulatory requirements (scope and restrictions), relevant industry standards and codes of practice
- design specifications
- exhaust/flue requirements, including materials and terminations
- fuel train requirements, including pipe-work and connections, valves, metering devices, regulating valves and electrical controls
- gas fuel types, properties and applications
- gas fuelled turbine engine overview, including types, major components, operating principles, manufacture specifications and diagrams
- installation and commissioning techniques for stationary gas fuelled turbine engine up to a capacity of 500 kW or speeds of 3600 RPM, including:
 - turbine engines plant and equipment
 - gas train pipe-work and components
 - exhaust/flue system
 - ventilation system
 - pressure testing and purging
 - authorisations and certification requirements and procedures
- location ventilation requirements
- relevant job safety assessments or risk mitigation processes, including:
 - hazardous area requirements
 - safe working practices
 - site safety
- relevant manufacturer specifications
- relevant WHS/OHS legislated requirements
- relevant workplace documentation and reports including ‘as-installed’ turbine engine components, pipe-work, flue/exhaust systems and accessories
- relevant workplace policies and procedures
- site arrangements, location and environment.

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 suitable workplace operational situations where it is appropriate to do so; where this is not appropriate, assessment must occur in suitable 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, facilities, equipment and personal protective equipment (PPE) currently used in industry
- resources used should reflect current industry practices in relation to stationary gas fuelled turbine engines
- 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>

UEGNSG201 Conduct distribution pipeline emergency repair

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 conduct a distribution pipeline emergency repair.

It includes evaluating incidents, identifying and conducting repairs and recommissioning the gas distribution pipeline under emergency situations, notifying relevant person/s of work completion, and completing documentation and reports in accordance with relevant industry standards and workplace procedures.

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 and as part of a team, under direct and/or indirect supervision, use discretion and judgement, and take responsibility for the quality of their output.

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

Pre-requisite Unit

UEGNSG225 Perform routine maintenance on distribution pipeline facilities and equipment

Competency Field

Gas Distribution

Unit Sector

Gas Industry

Elements and Performance Criteria

ELEMENTS

PERFORMANCE CRITERIA

Elements describe the essential Performance criteria describe the performance needed to

outcomes.

demonstrate achievement of the element.

1 Plan first on-site emergency response

- 1.1** Work health and safety (WHS)/occupational health and safety (OHS) procedures, environmental and sustainable energy measures and workplace policies and procedures are identified, obtained and applied
- 1.2** Details of incident are confirmed with supervisor, control centre and/or radio room in accordance with workplace procedures
- 1.3** Incident response is discussed with relevant person/s to establish appropriate isolation and repair methods
- 1.4** Hazards and threats to the gas pipeline and work site are identified, WHS/OHS risks are assessed and control measures are reported, prioritised and implemented in accordance with workplace policies and procedures
- 1.5** Resources including person/s, equipment, tools and personal protective equipment (PPE) required for the work are identified, scheduled, obtained and checked for correct operation and safety
- 1.6** Supervisor and/or Site Controller, and coordination centre, are communicated with regularly to confirm the emergency response in accordance with workplace procedures
- 1.7** Person/s participating in the work are fully briefed and responsibilities coordinated and authorised in accordance with workplace procedures
- 1.8** Site preparation, safety plan and work schedule are confirmed with relevant person/s in accordance with workplace procedures

2 Prepare to conduct distribution pipeline repair

- 2.1** Incidents are evaluated, work schedule/s, drawings, plans, specifications, job requirements and material lists are obtained, analysed and confirmed and identified repair is communicated to relevant person/s in accordance with workplace procedures
- 2.2** WHS, environmental hazard and risk control measures are monitored and adjusted as required, to ensure ongoing effectiveness in accordance with workplace procedures
- 2.3** Relevant work permit/s are obtained to access, isolate and de-isolate systems and perform work in accordance

with job requirements and workplace procedures

2.4 Equipment, tools and personal protective equipment (PPE) required for the job are identified, obtained and checked for correct operation and safety in accordance with workplace procedures

2.5 Site is prepared to minimise risk and damage to property, commerce and individuals in accordance with the work schedule and workplace procedures

2.6 Road signs, barriers and warning devices are positioned in accordance with job requirements, workplace procedures and traffic management plan

3 Conduct distribution pipeline repair

3.1 Hazard warnings and safety signs are recognised, WHS/OHS hazards and risks assessed and reported to authorised persons for directions in accordance with workplace procedures

3.2 Hazardous activities are conducted safely in accordance with regulatory requirements and workplace procedures

3.3 Pipeline repair work is conducted and monitored relevant repair techniques are applied and amendments and modifications in the pipeline repair are undertaken in accordance with workplace procedures

3.4 Unplanned situations are responded to in accordance with workplace procedures in a manner that minimises risk to personnel and equipment

3.5 Pipeline is inspected and tested, and quality checks of work undertaken in accordance with industry standards and workplace procedures

4 Recommission gas distribution pipeline to operational conditions and complete relevant documentation

4.1 System is recommissioned to meet distribution pipeline requirements and work undertaken is checked against work schedule for conformance and anomalies reported in accordance with workplace procedures

4.2 Any incidents, accidents and injuries are reported to relevant person/s and followed up in accordance with job requirements and workplace procedure

4.3 Incident site, reports, risk control measures and permit conditions are handed over to repair coordinator or relief response person in accordance with workplace

procedures

- 4.4 Work site is rehabilitated and made safe in accordance with workplace procedures
- 4.5 Relevant work permit/s are signed off and closed and pipeline is returned to service in accordance with job requirements and workplace procedures
- 4.6 Records and drawings are updated to reflect repair work completion records and reports as installed and relevant documentation completed, processed and appropriate person/s notified in accordance with workplace procedures
- 4.7 Debriefing with relevant person/s is conducted to discuss of incident response in accordance with workplace procedures

Foundation Skills

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

Range of Conditions

Range is restricted to essential operating conditions and any other variables essential to the work environment.

Non-essential conditions may be found in the UEG - Gas Industry Training Package Companion Volume Implementation Guide.

Unit Mapping Information

This is a new unit.

Links

Companion Volume Implementation Guides are found in VETNet - <https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=6a6c032e-ffcb-4f3d-8063-415efbd261e8>

Assessment Requirements for UEGNSG201 Conduct distribution pipeline emergency repair

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 and performance criteria on at least two separate occasions and include:

- applying controls for static, stray and induced electrical currents and faults
- applying environmental and sustainable energy principles and practices
- applying problem-solving techniques
- applying relevant legislation, standards, regulations and codes of practice
- applying relevant work health and safety (WHS)/occupational health and safety (OHS) requirements, including:
 - actioning and reporting accidents and incidents
 - applying emergency response procedures
 - hazard identification and reporting
 - implementing risk control measures
 - recognising and assessing hazard warnings and safety signs
 - selecting and using correct personal protective equipment (PPE)
 - undertaking hazardous activities in a safe manner
 - working safely with hazardous materials and equipment
- assessing the incident and establishing a safe working site or zone
- communicating effectively with relevant person/s, third parties and stakeholders
- completing work and relevant documentation
- conducting quality and safety checks
- cooperating with and providing input to persons investigating the incident and collecting evidence
- conducting distribution pipeline repairs in accordance with manufacturer, asset owners instructions and approved procedures
- dealing with unplanned events and situations in accordance with workplace procedures in a manner that minimises risk to personnel and equipment
- following workplace policies and procedures
- handing over to relevant person/s
- identifying leaks
- identifying and evaluating threats to the gas pipeline and work site

- interpreting technical drawings, plans and materials lists
- obtaining and using relevant materials and resources
- obtaining relevant resources, specifications, tools, equipment and materials
- obtaining relevant work permits and authorisations
- participating in debrief
- positioning road signs, barriers and warning devices
- preparing and planning for repairs of a gas distribution pipeline
- recommissioning gas distribution pipeline to operational conditions and notifying relevant person/s of completion of work
- reviewing damage to determine required repairs
- updating records and drawings to reflect alterations/modifications to the network.

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:

- communication techniques
- controls for stray, static and induced electrical currents and faults
- classifications of leaks and relevant procedures associated with each class of leak
- effective communication and liaison with relevant stakeholders, including:
 - coordination centre, control centre and radio room
 - emergency response organisations
 - emergency site controller plant operators and contractors
 - property/land owners and tenants
 - regulatory bodies
 - workplace colleagues, supervisors and managers
- emergency site assessment
- emergency/incident control procedures for applicable enterprise/work site
- environmental and sustainable energy principles and practices
- first aid and other emergency response workplace procedures
- hazard warnings and safety signs
- hazardous activities, including lifting, climbing, working in confined spaces and aloft, and use of power tools
- hazards, risk assessments and control measures
- information relevant to pipeline repair
- maintaining records
- monitoring process of the pipeline system during repair work
- nature of a situation and preliminary assessment
- preparation process for testing and inspection of pipeline system
- preparation process of the work site for repair work
- problem-solving techniques
- process for escalation of emergency levels

- properties and characteristics of gas relevant to the pipeline system to be tested
- recommission system and restore site
- relevant legislation, standards, regulations and codes of practice, including AS 4645 - Gas distribution networks
- relevant manufacturer specifications
- relevant permits and notifications required
- relevant resources including people, tools, equipment, systems and PPE
- relevant stakeholders, including authorised persons, authorities, clients
- relevant technical drawings, plans, material lists or specifications
- relevant testing and inspection methods appropriate to the system under test
- relevant timeframes
- relevant tools and equipment to inspect and test the pipeline system
- relevant WHS/OHS legislated requirements, including:
 - hazards, risk assessment and control measures
 - environmental and sustainable energy principles and practices
- relevant workplace documentation, report and records
- repairs required, including required equipment, materials, PPE and persons for the work
- road signs, barriers and warning devices
- site investigation and evidence gathering techniques
- site preparation, work schedules and safety plans
- techniques to record and interpret test data.

Assessment Conditions

Assessors must hold credentials specified within the Standards for Registered Training Organisations current at the time of assessment.

Assessment must satisfy the Principles of Assessment and Rules of Evidence and all regulatory requirements included within the Standards for Registered Training Organisations current at the time of assessment.

Assessment must occur in workplace operational situations where it is appropriate to do so; where this is not appropriate, assessment must occur in simulated workplace operational situations that replicate workplace conditions.

Assessment processes and techniques must be appropriate to the language, literacy and numeracy requirements of the work being performed and the needs of the candidate.

Resources for assessment must include access to:

- a range of relevant exercises, case studies and/or other simulations
- relevant and appropriate materials, tools, equipment and personal protective equipment (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>

UEGNSG202 Conduct emergency site control on gas distribution assets

Modification History

Release 1. This is the first release of this unit of competency in the UEG - Gas Industry Training Package.

Application

This new unit involves the skills and knowledge required to coordinate with varied stakeholders during an onsite gas emergency on gas distribution assets.

Stakeholders include emergency service managers, emergency response personnel, police and fire responders, and repair crews to ensure site control and safety is maintained while effectively controlling key response activities.

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

Pre-requisite Unit

Not applicable

Competency Field

Gas Distribution

Unit Sector

Gas Industry

Elements and Performance Criteria

ELEMENTS

Elements describe the essential outcomes.

1 Prepare for site control of emergency on gas distribution assets

PERFORMANCE CRITERIA

Performance criteria describe the performance needed to demonstrate achievement of the element.

1.1	Workplace procedures and contingency plans for dealing with emergencies and critical incidents are identified
1.2	Emergency is evaluated and activities are identified and

sequenced for the most efficient and effective outcome

- 1.3 Work schedule/s, drawings, plans, job requirements and material lists are obtained, analysed and confirmed
- 1.4 Identified repair/modification communicated is communicated to relevant stakeholders in accordance with workplace procedures
- 1.5 Work health and safety (WHS)/occupational health and safety (OHS), environmental and sustainable energy policies and procedures related to the work are identified to ensure safe systems of work are followed
- 1.6 Relevant stakeholders, public and emergency services, repair crews included in the coordination are determined and consulted as required
- 1.7 Key actions, events and communications are documented in a log of events
- 1.8 WHS/OHS hazards and risks are identified, assessed and prioritised

2 Coordinate with varied stakeholders during an onsite gas emergency

- 2.1 WHS/OHS and environmental risk control measures and policies and workplace procedures are implemented and monitored in accordance with workplace procedures
- 2.2 Communication with relevant stakeholders, public and emergency services, repair crews and clients are conducted and coordinated in accordance with workplace procedures
- 2.3 Key response activities are coordinated to ensure completion in agreed timeframe and to required industry and asset owner standards in accordance with job requirements and workplace procedures
- 2.4 Actions are taken to reduce the effect of the incident to minimise threats to the public, pipeline, gas distribution assets, facilities and environment in accordance with requirements, incident response strategy and workplace procedures
- 2.5 Incident is continually monitored and assessed for changes and responded to in accordance with incident response strategy and workplace procedures

- 2.6 Unplanned situations are responded to in accordance with workplace procedures in a manner that minimises risk to personnel and equipment
 - 2.7 Coordination is done to ensure affected assets are inspected, tested and secured and quality and safety checks of work undertaken in accordance with industry standards and workplace procedures
- 3 **Conclude site control of emergency on gas distribution assets**
 - 3.1 Coordination is conducted with relevant person(s) to ensure that system is recommissioned to meet industry requirements and work undertaken is checked against work schedule for conformance and anomalies reported in accordance with workplace procedures
 - 3.2 Work completion documentation, records and reports are completed, processed and appropriate stakeholders notified
 - 3.3 Accidents and injuries are reported as required in accordance with workplace procedures
 - 3.4 Emergency response is evaluated with relevant stakeholders, public and emergency services, repair crews, clients, regulatory bodies and landowners in accordance with workplace procedures
 - 3.5 Debriefing is conducted with relevant stakeholders to review incident response procedures and develop recommendations for changes to workplace procedures, as required
 - 3.6 Accurate records and drawings are completed and submitted to reflect repairs and modifications

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 Volume Implementation Guide.

Unit Mapping Information

This is a new unit.

Links

Companion Volume Implementation Guides are found in VETNet -
<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=6a6c032e-ffcb-4f3d-8063-415efbd261e8>

Assessment Requirements for UEGNSG202 Conduct emergency site control on gas distribution assets

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 and performance criteria on at least two separate incident scenarios and include:

- analysing and assessing incident information
- applying contingency plans
- applying environmental and sustainable energy principles and practices
- applying planning skills
- applying relevant legislation, standards, regulations and codes of practice
- applying relevant work health and safety (WHS)/occupational health and safety (OHS) requirements, including:
 - emergency response procedures
 - establish and maintain a suitable exclusion zone
 - hazard identification and reporting
 - implementing risk control measures
 - maintaining a safe and clean workplace
 - selecting and using correct personal protective equipment (PPE)
 - working safely with hazardous materials and equipment
- coordinating the recommissioning of gas distribution system to operational conditions and notifying relevant stakeholders of completion of work
- communicating and coordinating activities with relevant stakeholders, including:
 - asset owners, property owners and tenants
 - emergency response organisations
 - emergency response personnel
 - emergency service managers
 - police and fire responders
 - regulatory bodies
 - relevant customers and suppliers
 - repair crew
 - workplace colleagues
 - workplace managers

- communicating effectively in the workplace
- completing procedures for managing critical incidents
- completing relevant workplace documentation, reports and records
- dealing with unplanned events and situations in accordance with workplace procedures in a manner that minimises risk to personnel and equipment
- evaluating, responding and reporting threats and incidents to gas distribution assets
- implementing incident response strategies
- minimising threats to the public, pipeline, assets, facilities and environment
- monitoring and assessing incident for changes
- monitoring field work
- operating communications equipment
- participating in debrief
- preparing and planning for coordination of repairs and modifications of gas distribution assets
- preparing to manage critical incidents
- responding correctly to alarms
- updating records and drawings to reflect repairs/modifications.

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:

- communication techniques required in a supervisory role
- comply with environmental and cultural issues requirements
- contingency plans
- debriefs
- distribution operational parameters
- emergency and accident situations
- emergency management in the gas sector
- emergency/incident control procedures
- gas industry products, processes and characteristics
- gas industry reports and documentation
- general principles associated with pipelines and other gas infrastructure
- hazards, risk assessments and control measures
- identification of relevant gas industry plant, equipment and materials
- incident response strategies
- problem-solving techniques
- procedure for escalating emergencies
- relevant gas industry documents
- relevant legislation, standards, regulations and codes of practice, including AS 4645 - Gas distribution networks
- relevant manufacturer specifications

- relevant permits and notifications required
- relevant safe work method statements (SWMS), job safety assessments and risk mitigation processes
- relevant sections of the pipeline and associated standards and legislation, including AS 4645 - Gas distribution networks
- relevant stakeholders, including:
 - asset owners, property owners and tenants
 - emergency response organisations
 - emergency response personnel
 - emergency service managers
 - police and fire responders
 - regulatory bodies
 - relevant customers and suppliers
 - repair crew
 - workplace colleagues
 - workplace managers
- relevant WHS/OHS regulations, policies and procedures
- relevant workplace documentation
- relevant workplace policies and procedures
- safe working practices for managing emergencies and critical incidents for gas infrastructure and assets
- security breach procedures
- strategies for dealing with difficult situations.

Assessment Conditions

Assessors must hold credentials specified within the Standards for Registered Training Organisations current at the time of assessment.

Assessment must satisfy the Principles of Assessment and Rules of Evidence and all regulatory requirements included within the Standards for Registered Training Organisations current at the time of assessment.

Assessment must occur in 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 personal protective equipment (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>

UEGNSG203 Evaluate and extinguish gas fire

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 evaluate and extinguish gas fire. It includes preparing for a fire response, carrying out initial evaluation of the fire, extinguishing the fire and concluding a fire response.

This unit applies to those who may be required to provide the initial response to fire.

The skills and knowledge described in this unit must be applied within the legislative, regulatory and policy environment in which they are carried out. Workplace policies and procedures must be consulted and adhered to.

Those undertaking this unit would work independently and as part of a team, under direct and/or indirect supervision, use discretion and judgement, and take responsibility for the quality of their output.

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

Pre-requisite Unit

Not applicable

Competency Field

Gas Distribution

Unit Sector

Gas Industry

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 Evaluate a gas fire	1.1 Work health and safety (WHS)/occupational health and safety (OHS), environmental risk control measures and workplace procedures are identified, evaluated and prioritised 1.2 The location, nature, type and extent of the gas fire emergency are identified and evaluated in a timely appropriate manner 1.3 First response requirements are determined in order to evaluate the need to attack the gas fire emergency or evacuate the affected areas and notify responsible authorities 1.4 Resources, including person/s, equipment, tools and personal protective equipment (PPE), required for the job are identified, coordinated, obtained and checked for correct operation and safety in accordance with workplace procedures 1.5 Alternatives to extinguishing a fire are identified and most appropriate course of action is determined 1.6 Identify and notify appropriate authorities if required
2 Extinguish a gas fire	2.1 Fire is approached taking into account gas related hazards and site conditions 2.2 Extinguishing techniques, equipment and media appropriate to gaseous environment are used 2.3 Workplace emergency and fire response procedures are followed
3 Conclude a gas fire response	3.1 The site is evaluated and monitored for risk of reignition 3.2 Incident site evidence is preserved 3.3 Equipment, tools and personal protective equipment (PPE) used for the job are collected, stowed safely and maintained or replaced as necessary 3.4 Documenting and reporting activities are carried out in accordance with workplace procedures

Foundation Skills

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

Range of Conditions

Range is restricted to essential operating conditions and any other variables essential to the work environment.

Non-essential conditions may be found in the UEG - Gas Industry Training Package Companion Volume Implementation Guide.

Unit Mapping Information

This is a new unit.

Links

Companion Volume Implementation Guides are found in VETNet -
<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=6a6c032e-ffcb-4f3d-8063-415efbd261e8>

Assessment Requirements for UEGNSG203 Evaluate and extinguish gas fire

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 and performance criteria on at least two occasions and include:

- applying relevant work health and safety (WHS)/occupational health and safety (OHS) requirements, including:
 - actioning and reporting accidents and incidents
 - applying relevant legislation standards, regulations and codes of practice
 - applying relevant workplace policies and procedures
 - hazard identification and reporting
 - implementing risk control measures
- assessing the incident and recommending a safe working site or zone
- cleaning and maintaining the area after the work is completed in accordance with workplace procedures/policies
- collecting and stowing equipment, tools and personal protective equipment (PPE) after the job is completed
- completing required documentation and reporting
- confirming emergency/incident and preparing to respond to an emergency
- dealing with unplanned events and situations in accordance with workplace procedures in a manner that minimises risk to personnel and equipment
- evaluating the incident site and collecting evidence
- extinguishing fire using the right equipment taking into account surrounding environment and other hazard conditions
- following emergency and fire response procedures
- identifying and evaluating threats to the integrity of gas pipelines and work site
- using the right extinguishing techniques and the appropriate equipment and media to extinguish at least two of the following types of fire:
 - a gas ground surface fire
 - a gas meter fire
 - an impinging fire
 - an upright fire.

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:

- criteria for determining whether to monitor, extinguish or isolate a gas fire
- different causes of fire
- extinguishing techniques
- hazardous substances and dangerous goods
- hazards, risk assessments and control measures
- relevant legislation, industry standards, regulations and codes of practice
- relevant WHS/OHS legislated requirements
- relevant workplace documentation, report and records
- relevant workplace policies and procedures including gas isolation
- sources of reignition
- the impact of fires on the operating conditions of the gas assets including:
 - gas flow
 - integrity of pipe and cylinder material
 - pressure fluctuations
- the properties of gases and gas fires
- types of extinguishing media for gas fires
- types of personal protective clothing and equipment
- WHS/OHS hazard control measures and risk assessments.

Assessment Conditions

Assessors must hold credentials specified within the Standards for Registered Training Organisations current at the time of assessment.

Assessment must satisfy the Principles of Assessment and Rules of Evidence and all regulatory requirements included within the Standards for Registered Training Organisations current at the time of assessment.

Assessment must occur in simulated workplace operational situations that replicate fire conditions. Use of alternative similar gaseous fuels is appropriate.

Assessment 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 personal protective equipment (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>

UEGNSG205 Commission or decommission gas distribution pipelines

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 commission and decommission gas distribution pipelines in accordance with relevant legislation, standards, regulations, codes of practice and workplace procedures.

It includes using relevant tools and equipment, testing pipelines for safety and conformance, communicating with appropriate authorities and completing relevant documentation.

The application of the skills and knowledge described in this unit may require a licence/registration to practise in the workplace.

Other conditions may apply under state and territory legislative and regulatory licensing requirements which must be confirmed prior to commencing this unit.

Pre-requisite Unit

Not applicable.

Competency Field

Gas Distribution

Unit Sector

Gas Industry

Elements and Performance Criteria

ELEMENTS

Elements describe the essential outcomes.

1 Prepare to commission/decommission

PERFORMANCE CRITERIA

Performance criteria describe the performance needed to demonstrate achievement of the element.

1.1 Work health and safety (WHS)/occupational health and safety (OHS) workplace procedures and environmental

gas distribution pipelines

measures for the site are identified, obtained and applied

- 1.2** Job requirements and workplace procedures for the work are discussed with relevant person/s to confirm the work schedule
- 1.3** WHS/OHS, environmental and sustainable energy policies and procedures are obtained and applied
- 1.4** Work is prioritised and sequenced for completion within acceptable timeframes following consultation with relevant person/s in accordance with workplace procedures
- 1.5** Hazards are identified, WHS/OHS risks are assessed and control measures prioritised, implemented, and monitored in accordance with workplace procedures
- 1.6** Scope of work and level of responsibility under the relevant work permit and/or notification is confirmed with relevant person/s in accordance with job requirements and workplace procedures
- 1.7** Person/s, equipment, tools and personal protective equipment (PPE) required for the work are identified, scheduled, obtained and checked for correct operation and safety in accordance with workplace procedures
- 1.8** Materials, plans, diagrams, drawings and resources required for the work are scheduled and obtained in accordance with workplace procedures
- 1.9** Safety and emergency procedures and responsibilities for first aid and incidents at the worksite are checked and confirmed with relevant person/s in accordance with workplace procedures
- 1.10** Third-party issues are referred to relevant person/s in accordance with workplace procedures
- 1.11** Pipeline is cleaned or pigged, bypassed and checked for commissioning/decommissioning readiness in accordance with workplace procedures
- 1.12** Site preparation, safety plan and work schedule are confirmed with relevant person/s in accordance with workplace procedures
- 1.13** Person/s participating in the work are briefed and responsibilities confirmed in accordance with job

		requirements and workplace procedures
	1.14	Road signs, barriers and warning devices are positioned in accordance with job requirements and traffic management plan
2 Commission/decommission gas distribution pipelines	2.1	WHS/OHS and environmental risk control measures and workplace procedures for carrying out work are followed
	2.2	Materials, tools, equipment and testing and measuring devices required for the work are selected and used correctly and safely in accordance with manufacturer instructions and workplace procedures
	2.3	Hazardous activities are conducted safely in accordance with WHS/OHS workplace procedures, job instructions and regulatory requirements
	2.4	Pipeline purging/flaring is undertaken in accordance with job requirements, industry standards and workplace procedures
	2.5	Commissioning/decommissioning of gas distribution pipelines is performed to industry standards without waste of materials or damage to apparatus, circuits, and the surrounding environment or services using sustainable energy principles
	2.6	Gas is tested for compliance with pressure, concentration and odourant level requirements in accordance with industry standards and workplace procedures
	2.7	WHS/OHS risks are assessed and incidents reported to authorised person/s for directions in accordance with workplace procedures
	2.8	Unplanned events and non-routine problems are referred to authorised person/s for directions in accordance with workplace procedures
	2.9	Relevant reports and quality and safety checks of the work are conducted in accordance with job requirements and workplace procedures
3 Complete work and relevant documentation	3.1	WHS/OHS and environmental risk control measures and procedures for completing the work are followed
	3.2	Testing is conducted using relevant tools/equipment and work checked against work schedule for conformance

with job requirements and anomalies reported in accordance with workplace procedures

- 3.3 Accidents and injuries are reported in accordance with requirements and workplace procedures
- 3.4 Work site is rehabilitated, cleaned up and made safe in accordance with workplace procedures
- 3.5 Tools, equipment and any surplus resources and materials are cleaned, checked and securely stored in accordance with workplace procedures
- 3.6 Relevant work permit/s are signed off and equipment returned to service in accordance with workplace procedures, job and regulatory requirements
- 3.7 Appropriate person/s are notified of work completion in accordance with workplace procedures
- 3.8 Final inspections are undertaken and work completion documentation is finalised, processed and provided to appropriate person/s in accordance with workplace procedures

Foundation Skills

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

Range of Conditions

Range is restricted to essential operating conditions and any other variables essential to the work environment.

Non-essential conditions may be found in the UEG Gas Industry Training Package Companion Volume Implementation Guide.

commissioning/decommissioning gas distribution pipelines must include:

- carrying out job safety analysis (JSA)
- commissioning and recommissioning procedures
- isolating venting and purging gas pipeline systems
- obtaining the required work permit/authorisation
- purging and venting calculations
- testing for correct pressure, concentration

- isolation methods must include at least one (1) of the following:
- and odourant level
 - using gas detectors
 - bagtube
 - high pressure stop off
 - hot tap and stopple
 - squash/squeeze off jacks/pliers

Unit Mapping Information

This unit replaces and is equivalent to UEGNSG216 Commission or decommission gas distribution pipelines.

Links

Companion Volume Implementation Guides are found in VETNet -
<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=6a6c032e-ffcb-4f3d-8063-415efbd261e8>

Assessment Requirements for UEGNSG205 Commission or decommission gas distribution pipelines

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 and performance criteria on at least two separate occasions and include:

- applying relevant work health and safety (WHS)/occupational health and safety (OHS) requirements, including:
- ensuring emergency response procedures are in place
- hazard identification and reporting
- implementing risk control measures
- working safely with hazardous materials and equipment
- applying sustainable energy and environmental principles and practices
- commissioning/decommissioning gas distribution pipelines
- communicating with relevant person/s, authorities and stakeholders
- completing work and relevant documentation
- complying with regulations, industry standards, legislative requirements, codes of practice, manufacturers' recommendations and specifications, and environmental requirements
- conducting final inspections of work
- conducting quality and safety checks
- confirming that checking pipework is complete, including tested or pigged
- dealing with unplanned events/situations in accordance with workplace procedures in a manner that minimises risk to personnel and equipment
- following workplace procedures
- inspecting and testing to identify faults
- interpreting technical drawings, plans and materials lists
- obtaining approvals from authorities and signing off work permits
- obtaining relevant work permits
- performing pipeline purging/flaring
- positioning road signs, barriers and warning devices
- preparing to commission/decommission gas distribution pipelines
- rehabilitating and maintaining a clean work site
- testing for correct pressure, concentration and odourant level
- using relevant tools, equipment, measuring devices, personal protective equipment (PPE) and

materials.

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:

- common equipment faults
- decommissioning/commissioning requirements, equipment, tools and procedures
- effective communication techniques
- fault-finding and troubleshooting techniques
- fitting bypass apparatus ensuring continuity of supply
- hazardous activities, including lifting, climbing, working in confined spaces or aloft, and use of power tools
- industry standards for final inspections
- methods of monitoring system pressure at appropriate locations depending on network design and operating conditions
- non-conformances and incident reports
- purging and venting calculations
- quality and safety checks
- regulating, monitoring and testing system pressures, concentration and odour levels
- regulations, industry standards, legislative requirements, codes of practice, manufacturers' recommendations and specifications, and environmental requirements
- relevant stakeholders
- relevant workplace documentation recording and reporting
- relevant workplace policies and procedures
- site preparation
- testing of pipelines
- testing, adjusting and repairing systems
- use of a variety of media and testing procedures to purge and flare the pipe system
- relevant WHS/OHS legislated requirements, including:
 - site safety and emergency procedures
 - hazards, risk assessment and control measures
 - environmental and sustainable energy principles and practices
 - hazard warnings and safety signs
- PPE
- relevant technical drawings, plans and material lists
- relevant tools, measuring and testing equipment
- relevant work permits
- third-party issues
- traffic management plans.

Assessment Conditions

Assessors must hold credentials specified within the Standards for Registered Training Organisations current at the time of assessment.

Assessment must satisfy the Principles of Assessment and Rules of Evidence and all regulatory requirements included within the Standards for Registered Training Organisations current at the time of assessment.

Assessment must occur in workplace operational situations where it is appropriate to do so; where this is not appropriate, assessment must occur in simulated workplace operational situations that replicate workplace conditions.

Assessment processes and techniques must be appropriate to the language, literacy and numeracy requirements of the work being performed and the needs of the candidate.

Resources for assessment must include access to:

- a range of relevant exercises, case studies and/or 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>

UEGNSG206 Construct and lay copper and stainless steel gas distribution pipelines

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 construct and lay copper and stainless steel gas distribution pipeline and services up to 20 mm diameter, and install the meter connection to the services users.

It includes the use of relevant tools and equipment, completing necessary documentation, working safely in accordance with workplace procedures, and complying with relevant legislative, standard and code requirements.

This unit excludes welding of stainless steel pipe work.

The application of the skills and knowledge described in this unit may require a licence/registration to practise in the workplace.

Other conditions may apply under state and territory legislative and regulatory licensing requirements which must be confirmed prior to commencing this unit.

Pre-requisite Unit

Not applicable.

Competency Field

Gas Distribution

Unit Sector

Gas Industry

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 construct copper and stainless steel gas distribution pipelines

- 1.1** Work health and safety (WHS)/occupational health and safety (OHS) workplace procedures and environmental measures for the site are identified and applied
- 1.2** Job requirements and workplace procedures for the site are obtained and discussed with relevant person/s to confirm the work schedule
- 1.3** WHS/OHS, environmental and sustainable energy policies and procedures are obtained and applied
- 1.4** Hazards are identified, risks are assessed and control measures prioritised, implemented and monitored in accordance with workplace procedures
- 1.5** Level of responsibility under the relevant work permit and/or relevant notification is obtained and confirmed with relevant person/s in accordance with job requirements and workplace procedures
- 1.6** Equipment, plant, tools and personal protective equipment (PPE) required to construct copper and stainless steel gas pipelines and services are identified, obtained and checked for operation and safety in accordance with workplace procedures
- 1.7** Relevant person/s are consulted to ensure the work is coordinated effectively with others involved
- 1.8** Materials, plans, diagrams, drawings and resources required to construct gas pipelines are confirmed, scheduled and obtained in accordance with workplace procedures
- 1.9** Safety and emergency procedures for an incident at the work site are checked and confirmed
- 1.10** Third-party issues are referred to relevant person/s in accordance with workplace procedures
- 1.11** Site preparation, safety plan and work schedule are confirmed with relevant person/s in accordance with workplace procedures

2 Construct copper and stainless steel gas distribution pipelines

- 2.1** WHS/OHS and environmental risk control measures, schedule of work and workplace procedures for carrying out work are followed
- 2.2** Materials, tools, equipment and measuring devices

required for work activities are selected and used correctly and safely in accordance with manufacturer instructions and workplace procedures

- 2.3 Hazardous activities are conducted safely in accordance with WHS/OHS workplace procedures and job instructions
- 2.4 Construction of copper and stainless steel gas pipelines and services are conducted in accordance with industry standards and workplace procedures
- 2.5 Work is carried out to the required standard, without waste of materials or damage to apparatus, equipment, and the surrounding environment or services using sustainable energy principles
- 2.6 WHS/OHS risks, incidents and accidents are reported to authorised person/s for directions in accordance with workplace procedures
- 2.7 Unplanned events are referred to authorised person/s for directions in accordance with workplace procedures
- 2.8 Quality and safety checks of work, including testing of pipework are carried out in accordance with work instructions

3 Complete the work and relevant documentation

- 3.1 WHS/OHS and environmental risk control measures for work completion are followed
- 3.2 Relevant person/s are notified of work completion in accordance with workplace procedures
- 3.3 Tools, equipment and any surplus resources and materials are cleaned, checked and securely stored in accordance with workplace procedures
- 3.4 Work site is tidied and made safe in accordance with workplace procedures
- 3.5 Work documentation is completed and provided to relevant person/s in accordance with workplace procedures

Foundation Skills

Foundation skills essential to performance are explicit in the performance criteria of this unit of

competency.

Range of Conditions

Range is restricted to essential operating conditions and any other variables essential to the work environment.

Non-essential conditions may be found in the UEG Gas Industry Training Package Companion Volume Implementation Guide.

competency must include the following:

- constructing copper and stainless steel gas distribution pipelines and services up to 20 mm diameter
- cutting pipes, joining pipes and fittings
- installing the meter connection to the service riser, upstands, above ground services and response lines.

Unit Mapping Information

This unit replaces and is equivalent to UEGNSG224 Construct and lay copper and stainless steel gas distribution pipelines.

Links

Companion Volume Implementation Guides are found in VETNet -
<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=6a6c032e-ffcb-4f3d-8063-415efbd261e8>

Assessment Requirements for UEGNSG206 Construct and lay copper and stainless steel gas distribution pipelines

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 controls for stray, static and induced electrical faults
- applying relevant work health and safety (WHS)/occupational health and safety (OHS) requirements
- applying sustainable energy and environmental principles and practices
- checking tools, equipment, plant and personal protective equipment (PPE) for correct operation and safety
- cleaning, checking and storing tools and equipment
- communicating effectively with others
- completing required documentation and reporting
- complying with regulations, industry standards, legislative requirements, codes of practice, manufacturers' recommendations and specifications, and environmental requirements
- conducting quality and safety checks
- constructing copper and stainless steel gas distribution pipelines
- dealing with unplanned events/situations in accordance with workplace procedures in a manner that minimises risk to personnel and equipment
- identifying and correctly reading plans, drawings, manuals and diagrams
- identifying plant and equipment and safe operating parameters/requirements
- maintaining a clean work area
- minimising waste
- obtaining job requirements and work instructions
- obtaining relevant resources, tools, equipment and materials to conduct the work
- referring third-party issues to supervisor
- reporting WHS/OHS risks, incidents, accidents and unplanned events to supervisor
- working in accordance with relevant work permit/notifications.

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:

- controls for stray, static and induced electrical faults
- copper and stainless steel gas pipelines, including:
 - accessories
 - advantages and disadvantages
 - applications
 - characteristics
 - fittings
 - handling and storage
 - material specifications
 - pipe sizes
 - safety data sheets (SDS)
- copper, stainless steel and other piping materials
- dangers of working with live gas
- effective communication techniques
- environmental and sustainable energy principles and practices
- hazards and hazardous activities in the workplace
- quality and safety checks
- regulations, industry standards, legislative requirements, codes of practice, manufacturers' recommendations and specifications, and environmental requirements
- relevant industry and technical standards
- relevant materials, plans, diagrams, drawings and resources
- relevant materials, tools, equipment, plant, measuring devices and PPE
- relevant safe work method statements (SWMS)/job safety assessments or risk mitigation processes
- relevant WHS/OHS legislated requirements
- relevant work permits and/or notifications
- relevant workplace documentation
- relevant workplace policies and procedures
- safety and emergency procedures
- site preparation, safety plans, job requirements and work schedules
- techniques to minimise waste.

Assessment Conditions

Assessors must hold credentials specified within the Standards for Registered Training Organisations current at the time of assessment.

Assessment must satisfy the Principles of Assessment and Rules of Evidence and all regulatory requirements included within the Standards for Registered Training Organisations current at the time of assessment.

Assessment must occur in workplace operational situations where it is appropriate to do so; where this is not appropriate, assessment must occur in simulated workplace operational situations that replicate workplace conditions.

Assessment processes and techniques must be appropriate to the language, literacy and numeracy requirements of the work being performed and the needs of the candidate.

Resources for assessment must include access to:

- a range of relevant exercises, case studies and/or 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>

UEGNSG208 Construct and lay large copper gas distribution pipelines

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 construct and lay copper gas distribution pipelines and services above 20 mm diameter.

It includes using relevant tools and equipment, completing necessary documentation, and working safely in accordance with workplace procedures and relevant legislative, standard and code requirements.

The application of the skills and knowledge described in this unit may require a licence/registration to practise in the workplace.

Other conditions may apply under state and territory legislative and regulatory licensing requirements which must be confirmed prior to commencing this unit.

Pre-requisite Unit

Not applicable

Competency Field

Gas Distribution

Unit Sector

Gas Industry

Elements and Performance Criteria

ELEMENTS

Elements describe the essential outcomes.

1 Prepare to construct and lay large copper gas

PERFORMANCE CRITERIA

Performance criteria describe the performance needed to demonstrate achievement of the element.

1.1 Work health and safety (WHS)/occupational health and safety (OHS) workplace procedures and environmental

distribution pipelines	measures for the site are identified, obtained and applied
1.2	Job requirements and workplace procedures for the site are discussed with relevant person/s to confirm work schedule
1.3	WHS/OHS, environmental and sustainable energy policies and procedures are obtained and applied
1.4	Hazards are identified, WHS/OHS risks are assessed and control measures prioritised, implemented and monitored in accordance with workplace procedures
1.5	Scope of work and level of responsibility under the relevant work permit and/or notification is confirmed with relevant person/s in accordance with job requirements and workplace procedures
1.6	Equipment, plant, tools and personal protective equipment (PPE) required to construct and lay copper gas pipelines and services are identified, obtained and checked for correct operation and safety in accordance with workplace procedures
1.7	Relevant person/s are consulted to ensure work is coordinated effectively with others involved
1.8	Materials, plans, diagrams, drawings and resources required to construct and lay gas distribution pipelines are confirmed, scheduled and obtained in accordance with workplace procedures
1.9	Safety and emergency procedures and responsibilities for an incident at the work site are checked and confirmed with relevant person/s
1.10	Third-party issues are referred to relevant person/s in accordance with workplace procedures
1.11	Site preparation, safety plan and work schedule are confirmed with relevant person/s in accordance with established procedures
2 Construct and lay large copper gas distribution pipelines	
2.1	WHS/OHS and environmental risk control measures, schedule of work and workplace procedures for carrying out work are followed
2.2	Materials, tools, equipment and measuring devices required for the work are selected and used correctly and safely in accordance with manufacturer instructions and

workplace procedures

- 2.3 Hazardous activities are conducted safely in accordance with WHS/OHS workplace procedures and job instructions
- 2.4 Excavation bed/trench is prepared for laying of large pipe above 20 mm in diameter in accordance with relevant industry standards and workplace procedures
- 2.5 Construction and laying of copper gas pipelines and services are conducted in accordance with relevant industry standards and workplace procedures
- 2.6 Work is carried out to the required standard, without waste of materials or damage to apparatus, equipment, and the surrounding environment or services using sustainable energy principles
- 2.7 WHS/OHS risks, incidents and accidents are reported to authorised person/s for directions in accordance with workplace procedures
- 2.8 Unplanned events are referred to authorised person/s for directions are followed in accordance with workplace procedures
- 2.9 Quality and safety checks of work and testing of pipework is carried out in accordance with industry standards, work instructions and workplace procedures

3 Complete the work and relevant documentation

- 3.1 WHS/OHS and environmental risk control measures for work completion are followed
- 3.2 Relevant person/s are notified of work completion in accordance with workplace procedures
- 3.3 Tools, equipment and any surplus resources and materials are cleaned, checked and securely stored in accordance with workplace procedures
- 3.4 Work site is tidied and made safe in accordance with workplace procedures
- 3.5 Relevant documentation is completed and provided to appropriate person/s in accordance with workplace procedures

Foundation Skills

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

Range of Conditions

Range is restricted to essential operating conditions and any other variables essential to the work environment.

Non-essential conditions may be found in the UEG Gas Industry Training Package Companion Volume Implementation Guide.

competency must be demonstrated by constructing and laying copper gas distribution pipelines and services above 20 mm diameter and include:

- laying and cutting pipes
- joining pipes and fittings
- installing the meter connection to the services users

Unit Mapping Information

This unit replaces and is equivalent to UEGNSG228 Construct and lay large copper gas distribution pipelines.

Links

Companion Volume Implementation Guides are found in VETNet -
<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=6a6c032e-ffcb-4f3d-8063-415efbd261e8>

Assessment Requirements for UEGNSG208 Construct and lay large copper gas distribution pipelines

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 relevant work health and safety (WHS)/occupational health and safety (OHS) requirements
- applying sustainable energy and environmental principles and practices
- cleaning, checking and storing tools and equipment
- communicating effectively with others
- completing required documentation and reporting
- complying with regulations, industry standards, legislative requirements, codes of practice, manufacturers' recommendations and specifications, and environmental requirements
- conducting quality and safety checks
- constructing and laying large copper gas distribution pipelines
- dealing with unplanned events/situations in accordance with workplace procedures in a manner that minimises risk to personnel and equipment
- identifying plant and equipment and safe operating parameters/requirements
- identifying reading plans, drawings, manuals and diagrams correctly
- maintaining a clean work area
- preparing the excavation site
- selecting and checking tools, equipment, plant and personal protective equipment (PPE) for correct operation and safety
- testing pipework
- working in accordance with relevant work permit/notifications.

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:

- conditions for direct installation or insertion of large copper gas pipelines
- construction of large copper gas pipelines

- copper and other piping materials types, characteristics and components
- copper gas pipelines above 20 mm diameter
- effective communication techniques
- environmental and sustainable energy principles and practices
- excavation/trenching and bedding requirements for large copper gas pipelines
- hazardous activities, including the use of power tools, lifting, climbing, and working in confined spaces, excavations and trenches
- installation and testing of large copper gas pipelines
- problem-solving techniques
- quality and safety checks
- regulations, industry standards, legislative requirements, codes of practice, manufacturers' recommendations and specifications, and environmental requirements
- relevant materials, plans, diagrams, drawings and resources
- relevant materials, tools, equipment, plant, measuring devices and PPE
- relevant safe work method statements (SWMS)/job safety assessments or risk mitigation processes
- relevant WHS/OHS legislated requirements, including:
 - hazards, risk assessment and control measures
 - dangers of working with live gas
- relevant work permits and/or notifications
- relevant workplace documentation
- relevant workplace policies and procedures
- safety and emergency procedures
- site preparation, safety plans, job requirements and work schedules
- third-party issues.

Assessment Conditions

Assessors must hold credentials specified within the Standards for Registered Training Organisations current at the time of assessment.

Assessment must satisfy the Principles of Assessment and Rules of Evidence and all regulatory requirements included within the Standards for Registered Training Organisations current at the time of assessment.

Assessment must occur in workplace operational situations where it is appropriate to do so; where this is not appropriate, assessment must occur in simulated workplace operational situations that replicate workplace conditions.

Assessment processes and techniques must be appropriate to the language, literacy and numeracy requirements of the work being performed and the needs of the candidate.

Resources for assessment must include access to:

- a range of relevant exercises, case studies and/or 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>

UEGNSG209 Construct and lay polyethylene gas distribution mains

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 construct and lay polyethylene gas distribution mains.

It includes constructing and laying polyethylene gas distribution mains using relevant tools and equipment, completing necessary documentation, and working safely in accordance with workplace procedures and relevant legislative, industry standard and code of practice requirements.

The application of the skills and knowledge described in this unit may require a licence/registration to practise in the workplace.

Other conditions may apply under state and territory legislative and regulatory licensing requirements which must be confirmed prior to commencing this unit.

Pre-requisite Unit

Not applicable.

Competency Field

Gas Distribution

Unit Sector

Gas Industry

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 construct and lay polyethylene gas distribution mains

- 1.1** Work health and safety (WHS)/occupational health and safety (OHS) workplace procedures and environmental measures for the site are identified, obtained and applied
- 1.2** Job requirements, including alignment of main and services and workplace procedures for the site, are discussed with relevant person/s to confirm the work schedule
- 1.3** WHS/OHS, environmental and sustainable energy policies and procedures are obtained and applied
- 1.4** Hazards are identified, WHS/OHS risks are assessed and control measures prioritised, implemented and monitored in accordance with workplace procedures
- 1.5** Scope of work and level of responsibility under the relevant work permit and/or notification is confirmed with relevant person/s in accordance with job requirements and workplace procedures
- 1.6** Equipment, tools and personal protective equipment (PPE) required to carry out the work are identified, obtained and checked for correct operation and safety in accordance with workplace procedures
- 1.7** Relevant person/s are consulted to ensure the work is coordinated effectively with others involved
- 1.8** Materials, plans, diagrams, drawings and resources required to construct and lay polyethylene gas distribution mains are confirmed, scheduled and obtained in accordance with workplace procedures
- 1.9** Safety and emergency response procedures and responsibilities for an incident are checked and confirmed with relevant person/s
- 1.10** Third-party issues are referred to relevant person/s in accordance with workplace procedures
- 1.11** Site preparation, safety plan and work schedule are confirmed with relevant person/s in accordance with workplace procedures
- 1.12** Road signs, barriers and warning devices are positioned in accordance with job instructions, workplace procedures and traffic management plans

2 Construct and lay polyethylene gas distribution mains

- 2.1** WHS/OHS and environmental risk control measures, schedule of work and workplace procedures for carrying out work are followed
- 2.2** Materials, tools, equipment and measuring devices required for the work are selected and used correctly and safely in accordance with manufacturer instructions and workplace procedures
- 2.3** Hazardous activities are conducted safely in accordance with WHS/OHS workplace procedures and job instructions
- 2.4** Excavation bed/trench is prepared for laying of polyethylene gas pipe in accordance with relevant industry standards and workplace procedures
- 2.5** Construction and laying of polyethylene gas distribution mains are conducted in accordance with relevant industry standards and workplace procedures
- 2.6** Materials are prepared, aligned, constrained and jointed in accordance with relevant industry standards and workplace procedures
- 2.7** Work is carried out to the required standard, without waste of materials or damage to apparatus, equipment, and the surrounding environment or services using sustainable energy principles
- 2.8** WHS/OHS risks, incidents and accidents are reported to the immediate authorised person/s for directions in accordance with workplace procedures
- 2.9** Unplanned events are referred to authorised person/s for directions in accordance with workplace procedures
- 2.10** Quality and safety checks of work and testing of pipework is carried out in accordance with industry standards, work instructions and workplace procedures

3 Complete work and relevant documentation

- 3.1** WHS/OHS and environmental risk control measures for work completion are followed
- 3.2** Work site is rehabilitated, cleaned up and made safe in accordance with and workplace procedures
- 3.3** Tools, equipment and any surplus resources and materials are cleaned, checked and securely stored in

accordance with workplace procedures

3.4 Relevant person/s are notified of work completion in accordance with workplace procedures

3.5 Relevant documentation is completed and provided to appropriate person/s in accordance with workplace procedures

Foundation Skills

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

Range of Conditions

Range is restricted to essential operating conditions and any other variables essential to the work environment.

Non-essential conditions may be found in the UEG Gas Industry Training Package Companion Volume Implementation Guide.

Unit Mapping Information

This unit replaces and is equivalent to UEGNSG220 Construct and lay Polyethylene gas distribution mains.

Links

Companion Volume Implementation Guides are found in VETNet -
<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=6a6c032e-ffcb-4f3d-8063-415efbd261e8>

Assessment Requirements for UEGNSG209 Construct and lay polyethylene gas distribution mains

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 and performance criteria on at least two separate occasions and include:

- applying controls for stray, static and induced electrical faults
- applying electrostatic mitigation workplace procedures
- applying material handling workplace procedures
- applying relevant work health and safety (WHS)/occupational health and safety (OHS) requirements
- applying sustainable energy and environmental principles and practices
- checking tools, equipment, plant and personal protection equipment (PPE) for correct operation and safety
- cleaning, checking and storing tools and equipment
- communicating effectively with others
- completing required documentation and reporting
- complying with regulations, industry standards, legislative requirements, codes of practice, manufacturers' recommendations and specifications, and environmental requirements
- conducting quality and safety checks
- constructing and laying polyethylene gas distribution mains
- dealing with unplanned events/situations in accordance with workplace procedures in a manner that minimises risk to personnel and equipment
- identifying and correctly reading plans, drawings, manuals and diagrams
- positioning road signs, barriers and warning devices
- preparing the excavation site
- rehabilitating and maintaining a clean work area
- selecting correct materials, equipment, tools, personal protection equipment and measurement devices
- testing pipework
- working in accordance with relevant work permit/notifications.

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:

- conditions for direct installation or insertion of polyethylene pipeline
- construction of polyethylene pipelines
- controls for stray, static and induced electrical faults
- effective communication techniques
- environmental and sustainable energy principles and practices
- excavation/trenching and bedding requirements for polyethylene pipelines
- hazardous activities, including the use of power tools, lifting, climbing, and working in confined spaces, excavations and trenches
- installation and testing of polyethylene pipelines
- jointing procedures, methods and calculations
- plastic gas main pipelines types, characteristics and components
- polyethylene gas pipelines types, characteristics and components
- problem-solving techniques
- quality and safety checks
- regulations, industry standards, legislative requirements, codes of practice, manufacturers' recommendations and specifications, and environmental requirements
- relevant WHS/OHS legislated requirements, including:
 - hazards, risk assessment and control measures
 - dangers of working with live gas
- relevant materials, plans, diagrams, drawings and resources
- relevant materials, tools, equipment, plant, measuring devices and PPE
- relevant safe work method statements (SWMS)/job safety assessments or risk mitigation processes includes electrostatic hazards and risk mitigation
- relevant WHS/OHS legislated requirements
- relevant work permits and/or notifications
- relevant workplace documentation
- relevant workplace policies and procedures
- road signs, barriers, warning devices and traffic management plans
- safety and emergency response procedures
- site preparation, safety plans, job requirements and work schedules.

Assessment Conditions

Assessors must hold credentials specified within the Standards for Registered Training Organisations current at the time of assessment.

Assessment must satisfy the Principles of Assessment and Rules of Evidence and all regulatory requirements included within the Standards for Registered Training Organisations current at the time of assessment.

Assessment must occur in workplace operational situations where it is appropriate to do so; where this is not appropriate, assessment must occur in simulated workplace operational situations that replicate workplace conditions.

Assessment processes and techniques must be appropriate to the language, literacy and numeracy requirements of the work being performed and the needs of the candidate.

Resources for assessment must include access to:

- a range of relevant exercises, case studies and/or 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>

UEGNSG211 Construct and lay steel gas distribution pipelines

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 construct and lay steel gas distribution pipelines.

It includes connecting steel pipe to steel gas distribution mains pipelines, using relevant tools and equipment, completing necessary documentation, and working safely in accordance with workplace procedures and relevant legislative, standard and code requirements.

This unit excludes steel welding.

The application of the skills and knowledge described in this unit may require a licence/registration to practise in the workplace.

Other conditions may apply under state and territory legislative and regulatory licensing requirements which must be confirmed prior to commencing this unit.

Pre-requisite Unit

Not applicable.

Competency Field

Gas Distribution

Unit Sector

Gas Industry

Elements and Performance Criteria

ELEMENTS

Elements describe the essential outcomes.

1 Prepare to construct and lay steel gas distribution

PERFORMANCE CRITERIA

Performance criteria describe the performance needed to demonstrate achievement of the element.

1.1 Work health and safety (WHS)/occupational health and safety (OHS) workplace procedures and environmental

mains		measures for the site are identified, obtained and applied
	1.2	Job requirements, including alignment of main and services and workplace procedures for the site, are discussed with relevant person/s to confirm the work schedule
	1.3	WHS/OHS, environmental and sustainable energy policies and procedures are obtained and applied
	1.4	Hazards are identified, WHS/OHS risks are assessed and control measures prioritised, implemented and monitored in accordance with workplace procedures
	1.5	Scope of work and level of responsibility under the relevant work permit and/or notification is confirmed with relevant person/s in accordance with job requirements and workplace procedures
	1.6	Equipment, plant, tools and personal protective equipment (PPE) required for the work are identified, obtained and checked for correct operation and safety in accordance with workplace procedures
	1.7	Relevant person/s are consulted to ensure the work is coordinated effectively with others involved
	1.8	Materials, plans, diagrams, drawings and resources required to construct and lay steel gas distribution mains are confirmed, scheduled and obtained in accordance with workplace procedures
	1.9	Safety and emergency procedures and responsibilities for an incident are checked and confirmed with relevant person/s
	1.10	Third-party issues are referred to relevant person/s in accordance with workplace procedures
	1.11	Site preparation, safety plan and work schedule are confirmed with relevant person/s in accordance with workplace procedures
	1.12	Road signs, barriers and warning devices are positioned in accordance with job instructions, workplace procedures and traffic management plans
2 Construct and lay steel gas distribution mains	2.1	WHS/OHS risk control measures, schedule of work and workplace procedures for carrying out work are followed

- 2.2 Materials, tools, equipment and measuring devices required for the work are selected and used correctly and safely in accordance with manufacturer instructions and workplace procedures
 - 2.3 Hazardous activities are conducted safely in accordance with WHS/OHS workplace procedures and job instructions
 - 2.4 Excavation bed/trench is prepared for laying of steel gas pipe in accordance with relevant industry standards and workplace procedures
 - 2.5 Construction and laying of steel gas pipe transition and connections are conducted in accordance with relevant industry standards and workplace procedures
 - 2.6 Work is carried out to the required standard, without waste of materials or damage to apparatus, equipment, and the surrounding environment or services using sustainable energy principles
 - 2.7 WHS/OHS risks, incidents and accidents are reported to authorised person/s for directions in accordance with workplace procedures
 - 2.8 Unplanned events are referred to authorised person/s for directions in accordance with workplace procedures
 - 2.9 Quality and safety checks of work and testing of pipework is carried out in accordance with industry standards, work instructions and workplace procedures
- 3 Complete the work and relevant documentation**
- 3.1 WHS/OHS risk control measures for work completion are followed
 - 3.2 Work site is rehabilitated, cleaned up and made safe in accordance with workplace procedures
 - 3.3 Equipment, tools and any surplus resources and materials are cleaned, checked and securely stored in accordance with workplace procedures
 - 3.4 Relevant person/s are notified of work completion in accordance with workplace procedures
 - 3.5 Relevant documentation is completed and provided to appropriate person/s in accordance with workplace procedures

Foundation Skills

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

Range of Conditions

Range is restricted to essential operating conditions and any other variables essential to the work environment.

Non-essential conditions may be found in the UEG Gas Industry Training Package Companion Volume Implementation Guide.

competency must demonstrate constructing and laying a distribution gas service to metal mains, including:

- installing the meter connection to the services user
- joining pipes and fittings
- laying and cutting pipes
- preparing an excavation bed and backfilling

Unit Mapping Information

This unit replaces and is equivalent to UEGNSG223 Construct and lay steel gas distribution pipelines.

Links

Companion Volume Implementation Guides are found in VETNet -
<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=6a6c032e-ffcb-4f3d-8063-415efbd261e8>

Assessment Requirements for UEGNSG211 Construct and lay steel gas distribution pipelines

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 coating types and protection
- applying controls for stray, static and induced electrical faults
- applying relevant work health and safety (WHS)/occupational health and safety (OHS) requirements
- applying sustainable energy and environmental principles and practices
- checking tools, equipment, plant and personal protective equipment (PPE) for correct operation and safety including handling and storage requirements
- cleaning, checking and storing tools and equipment
- communicating effectively with others
- completing required documentation and reporting
- complying with regulations, industry standards, legislative requirements, codes of practice, manufacturers' recommendations and specifications, and environmental requirements
- conducting quality and safety checks
- constructing and laying steel gas distribution mains
- dealing with unplanned events
- identifying and correctly reading plans, drawings, manuals and diagrams
- identifying plant and equipment and safe operating parameters/requirements
- obtaining relevant resources, tools, equipment and materials to conduct the work
- positioning road signs, barriers and warning devices
- preparing the excavation site
- preparing to construct and lay steel gas distribution mains
- rehabilitating and maintaining a clean work area
- testing pipework
- working in accordance with relevant work permit/notifications.

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:

- coating types and protection
- conditions for direct installation or insertion of steel pipelines
- construction of steel pipelines
- controls for stray, static and induced electrical faults
- effective communication techniques
- environmental and sustainable energy principles and practices
- excavation/trenching and bedding requirements for steel pipelines
- handling and storage requirements
- hazardous activities, including the use of power tools, lifting, climbing, and working in confined spaces, excavations and trenches
- installation and testing of steel pipelines
- problem-solving techniques
- quality and safety checks
- regulations, industry standards, legislative requirements, codes of practice, manufacturers' recommendations and specifications, and environmental requirements
- relevant materials, plans, diagrams, drawings and resources
- relevant materials, tools, equipment, plant, measuring devices and PPE
- relevant safe work method statements (SWMS)/job safety assessments or risk mitigation processes
- relevant WHS/OHS legislated requirements, including:
 - hazards, risk assessment and control measures
 - dangers of working with live gas
- relevant work permits and/or notifications
- relevant workplace documentation
- relevant workplace policies and procedures
- road signs, barriers, warning devices and traffic management plans
- safety and emergency procedures
- site preparation, safety plans, job requirements and work schedules
- steel gas pipelines types, characteristics and components.

Assessment Conditions

Assessors must hold credentials specified within the Standards for Registered Training Organisations current at the time of assessment.

Assessment must satisfy the Principles of Assessment and Rules of Evidence and all regulatory requirements included within the Standards for Registered Training Organisations current at the time of assessment.

Assessment must occur in workplace operational situations where it is appropriate to do so; where this is not appropriate, assessment must occur in simulated workplace operational situations that replicate workplace conditions.

Assessment processes and techniques must be appropriate to the language, literacy and numeracy requirements of the work being performed and the needs of the candidate.

Resources for assessment must include access to:

- a range of relevant exercises, case studies and/or 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>

UEGNSG214 Coordinate and conduct gas distribution pipeline repair and modifications

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 prepare, coordinate and conduct gas distribution pipeline repair and modifications.

It includes on-the-job inspecting, testing, identifying, recommissioning the gas distribution pipeline, notifying relevant person/s of work completion, and completing documentation and reports in accordance with relevant industry standards and workplace procedures.

The application of the skills and knowledge described in this unit may require a licence/registration to practise in the workplace.

Other conditions may apply under state and territory legislative and regulatory licensing requirements which must be confirmed prior to commencing this unit.

Pre-requisite Unit

Not applicable

Competency Field

Gas Distribution

Unit Sector

Gas Industry

Elements and Performance Criteria

ELEMENTS

Elements describe the essential outcomes.

1 Prepare for the coordination of gas

PERFORMANCE CRITERIA

Performance criteria describe the performance needed to demonstrate achievement of the element.

1.1 Work schedule/s, drawings, plans, job requirements and material lists are obtained, analysed and confirmed, as

**distribution pipeline
repairs and modifications**

required, by site inspection and identified repair/modification communicated to relevant person/s in accordance with workplace procedures

- 1.2** Plans, specifications and other relevant information and workplace procedures for the work are obtained for all work sites and communicated to all relevant person/s in accordance with workplace procedures
- 1.3** Work health and safety (WHS)/occupational health and safety (OHS) and environmental workplace policies and procedures related to the work are obtained and applied
- 1.4** Work is prioritised and sequenced for completion within acceptable timeframes following consultation with relevant person/s in accordance with workplace procedures
- 1.5** Hazards are identified, WHS/OHS risks are assessed and control measures implemented in accordance with workplace procedures
- 1.6** Relevant work permit/s are obtained to access, isolate/de-isolate systems and perform work in accordance with job requirements and workplace procedures
- 1.7** Equipment, tools and personal protective equipment (PPE) required for the job are identified, scheduled, obtained and checked for correct operation and safety in accordance with workplace procedures to minimise harm to equipment and personnel
- 1.8** Relevant person/s and authorities are identified and consulted to ensure the work is coordinated effectively and safely in accordance with WHS/OHS requirements and workplace procedures
- 1.9** Relevant persons at work site are confirmed to be current in first aid and other related requirements in accordance with work procedures
- 1.10** Communication issues with relevant stakeholders are resolved and work coordinated in accordance with work schedule and workplace procedures
- 1.11** Site is prepared to minimise risk and damage to property, commerce and individuals in accordance with the work schedule, workplace procedures and traffic

		management plan
	1.12	Person/s participating in the work are briefed and responsibilities coordinated and confirmed in accordance with job requirements and workplace procedures
	1.13	Road signs, barriers and warning devices are positioned in accordance with job requirements, workplace procedures and traffic management plan
2 Coordinate and conduct gas pipeline repair or modification	2.1	WHS/OHS and environmental risk control measures and policies and workplace procedures are followed
	2.2	Hazardous activities are conducted safely in accordance with regulatory requirements and workplace procedures
	2.3	Gas distribution pipeline repair and modifications are coordinated to ensure completion in agreed timeframe and to required industry standards with a minimum of waste in accordance with job requirements and workplace procedures
	2.4	Coordination of gas distribution pipeline repair and modifications are carried out in accordance with the work schedule and workplace procedures
	2.5	Hazard warnings and safety signs are recognised, hazards and WHS/OHS risks assessed and reported to authorised persons for directions in accordance with workplace procedures
	2.6	Pipeline repair/modification work is conducted and monitored and unplanned events, amendments and modifications in the pipeline repair are undertaken in accordance with workplace procedures
	2.7	Unplanned situations are responded to in accordance with workplace procedures in a manner that minimises risk to personnel and equipment
	2.8	Pipeline is inspected and tested and quality and safety checks of work undertaken in accordance with industry standards and workplace procedures
3 Recommission gas distribution pipeline to operational conditions and complete relevant	3.1	System is recommissioned to meet distribution pipeline requirements and work undertaken is checked against work schedule for conformance and anomalies reported in accordance with workplace procedures

documentation

- 3.2** Accidents and injuries are reported as required in accordance with workplace procedures
- 3.3** Work site is rehabilitated, cleaned up and made safe in accordance with 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 work permit/s are signed off and pipeline is returned to service in accordance with job requirements and workplace procedures
- 3.6** Records and drawings are updated to reflect repair, modifications and work completion records and reports as installed and relevant documentation completed, processed and appropriate person/s notified in accordance with workplace procedures

Foundation Skills

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

Range of Conditions

Range is restricted to essential operating conditions and any other variables essential to the work environment.

Non-essential conditions may be found in the UEG Gas Industry Training Package Companion Volume Implementation Guide.

Unit Mapping Information

This unit replaces and is equivalent to UEGNSG204 Coordinate and conduct gas distribution pipeline repair and modifications.

Links

Companion Volume Implementation Guides are found in VETNet - <https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=6a6c032e-ffcb-4f3d-8063-415efbd261e8>

Assessment Requirements for UEGNSG214 Coordinate and conduct gas distribution pipeline repair and modifications

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 and performance criteria on at least two separate occasions and include:

- ability to identify defects and repair methods
- applying relevant work health and safety (WHS)/occupational health and safety (OHS) requirements, including:
 - ensuring emergency response procedures are in place
 - hazard identification and reporting
 - implementing risk control measures
 - selecting and using correct personal protective equipment (PPE)
 - working safely with hazardous materials and equipment
- applying problem-solving techniques
- applying sustainable energy and environmental principles and practices
- choosing and checking the appropriate equipment, plant, tools, measuring devices and PPE for distribution repair and modification work
- communicating schedules to coordinate to person/s
- complying with relevant regulations, industry standards, legislative requirements, codes of practice, manufacturers' recommendations and specifications, and environmental requirements
- communicating with authorities and relevant stakeholders
- completing work and relevant documentation
- conducting quality and safety checks
- coordinating on-the-job gas distribution pipeline repairs or modifications
- dealing with unplanned events/situations in accordance with workplace procedures in a manner that minimises risk to personnel and equipment
- following workplace procedures
- identifying leaks
- inspecting and testing
- interpreting technical drawings, plans and materials lists
- obtaining relevant resources, specifications, plans, tools, equipment and materials
- obtaining relevant work permits

- positioning road signs, barriers and warning devices
- preparing and planning for coordination of repairs and modifications of a gas distribution pipeline
- recommissioning gas distribution pipeline to operational conditions and notifying relevant person/s of completion of work
- updating records and drawings to reflect repairs/modifications.

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:

- communication techniques
- controls for stray, static and induced electrical faults
- different classification of leaks and relevant procedures associated with each class of leak and gas types
- hazard warnings and safety signs
- hazardous activities, including lifting, climbing, working in confined spaces or aloft, and use of power tools
- information relevant to pipeline repair and modification
- maintaining records
- monitoring process of the pipeline system during repair work
- preparation process for testing and inspection of pipeline system
- preparation process of the work site for repairs/modifications work
- problem-solving techniques
- properties and characteristics of different types of fuel gases relevant to pipeline systems to be tested
- recommission system and restore site
- relevant regulations, industry standards, legislative requirements, codes of practice, manufacturers' recommendations and specifications, and environmental requirements
- relevant safe work method statements (SWMS)/job safety assessments or risk mitigation processes
- relevant stakeholders, including authorised persons, authorities, clients and land owners
- relevant technical drawings, plans, material lists or specifications
- relevant testing and inspection methods appropriate to the system under test
- relevant timeframes
- relevant tools and equipment to inspect and test the pipeline system
- relevant workplace documentation
- relevant workplace policies and procedures
- relevant WHS/OHS legislated requirements, including:
 - hazards, risk assessment and control measures and procedures
 - environmental and sustainable energy principles and practices
 - emergency response procedures

- repairs, repair and modifications required, including required equipment, materials, PPE and persons for the work
- road signs, barriers and warning devices
- site inspections
- techniques to record and interpret test data.

Assessment Conditions

Assessors must hold credentials specified within the Standards for Registered Training Organisations current at the time of assessment.

Assessment must satisfy the Principles of Assessment and Rules of Evidence and all regulatory requirements included within the Standards for Registered Training Organisations current at the time of assessment.

Assessment must occur in workplace operational situations where it is appropriate to do so; where this is not appropriate, assessment must occur in simulated workplace operational situations that replicate workplace conditions.

Assessment processes and techniques must be appropriate to the language, literacy and numeracy requirements of the work being performed and the needs of the candidate.

Resources for assessment must include access to:

- a range of relevant exercises, case studies and/or 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>

UEGNSG215 Coordinate construction, laying and testing of gas distribution pipelines

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 coordinate construction, laying and testing of gas distribution pipelines and associated equipment.

It includes notifying other services, communicating with appropriate person/s, ensuring the correct materials, tools and equipment are used and completing relevant documentation.

The application of the skills and knowledge described in this unit may require a licence/registration to practise in the workplace.

Other conditions may apply under state and territory legislative and regulatory licensing requirements which must be confirmed prior to commencing this unit.

Pre-requisite Unit

Not applicable.

Competency Field

Gas Distribution

Unit Sector

Gas Industry

Elements and Performance Criteria

ELEMENTS

Elements describe the essential outcomes.

1 Prepare to coordinate pipeline installation

PERFORMANCE CRITERIA

Performance criteria describe the performance needed to demonstrate achievement of the element.

- 1.1** Location of services are verified and alignment of gas main and associated equipment are confirmed, as necessary, by site inspection in accordance with work

schedule and workplace procedures

- 1.2** Job requirements and workplace procedures for the work are obtained for all work sites and communicated to relevant person/s in accordance with workplace procedures
- 1.3** Work health and safety (WHS)/occupational health and safety (OHS), environmental and sustainable energy policies and procedures related to the work are obtained, applied and communicated with relevant person/s in accordance with workplace procedures
- 1.4** Work is prioritised and sequenced for completion within acceptable timeframes following consultation with relevant person/s in accordance with workplace procedures
- 1.5** Hazards are identified, WHS/OHS risks are assessed and control measures prioritised, implemented and monitored in accordance with workplace procedures
- 1.6** Relevant work permits are obtained to access, isolate/de-isolate systems and perform the work in accordance with regulatory requirements and workplace procedures
- 1.7** Person/s, plant and equipment, tools and personal protective equipment (PPE) required for the job are identified, scheduled, obtained checked for correct operation and safety in accordance with workplace procedures
- 1.8** Communication with authorised person/s, authorities, clients and land-owners is conducted and work coordinated in accordance with work schedule and workplace procedures
- 1.9** Site is prepared to minimise risk and damage to property, commerce and individuals in accordance with the work schedule and workplace procedures
- 1.10** Person/s participating in the work are briefed and responsibilities coordinated and confirmed in accordance with job requirements and workplace procedures
- 1.11** Road signs, barriers and warning devices are positioned in accordance with job requirements, workplace procedures and traffic management plan

2 Coordinate construction, laying and testing of pipelines	2.1 WHS/OHS and environment risk control measures, schedule of work and workplace procedures for carrying out work are followed
	2.2 Hazardous activities are conducted safely and currency confirmed in accordance with regulatory requirements and workplace procedures
	2.3 Construction, laying and testing of gas distribution pipelines is coordinated to ensure completion in agreed timeframe and to required standards with a minimum of waste in accordance with job requirements and workplace procedures
	2.4 Construction, laying and testing work is coordinated in accordance with the work schedule and workplace procedures
	2.5 Hazard warnings and safety signs are recognised, hazards and WHS/OHS risks assessed and reported to authorised person/s for directions in accordance with workplace procedures
	2.6 Unplanned events encountered when coordinating the construction, laying and testing work are identified and actioned in accordance with workplace procedures
3 Complete the coordination of pipeline construction and laying and relevant documentation	3.1 Final inspections of work are undertaken, checked against work schedule for conformance and anomalies reported in accordance with workplace procedures
	3.2 Accidents and injuries are reported, as required, in accordance with workplace procedures
	3.3 Coordination is done to ensure work site is rehabilitated, cleaned up and made safe in accordance with workplace procedures
	3.4 Tools, equipment and any surplus resources and waste materials are coordinated for removal, cleaning, checking and returning to storage in accordance with workplace procedures
	3.5 Relevant work permit/s are signed off and pipeline returned to service in accordance with job requirements and workplace procedures
	3.6 Work completion records, reports and documentation are

completed, processed and appropriate person/s notified in accordance with workplace procedures

Foundation Skills

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

Range of Conditions

Range is restricted to essential operating conditions and any other variables essential to the work environment.

Non-essential conditions may be found in the UEG Gas Industry Training Package Companion Volume Implementation Guide.

tools and equipment must include at least three (3) of the following:	• excavation • trenching • shoring • stitch bore • horizontal drilling • directional drilling
pipe connections must include at least four (4) of the following:	• nylon (polyamide) pipeline laying techniques • nylon gluing • connection of nylon to other materials • nylon stop off • unplasticised polyvinyl chloride (uPVC) pipeline laying techniques • uPVC solvent cemented joints • uPVC moulded joints • uPVC stop off • uPVC couplings or flanges • connection of uPVC to other material
procedures must include at least five (5) of the following:	• polyethylene (PE) pipeline laying techniques • large diameter PE • PE electro fusion • PE butt fusion • saddle fusion • socket fusion • PE stop off • compression couplings or flanges • connection of PE to other materials

- procedures must include at least two (2) of the following:
- procedures must include at least three (3) of the following:
- isolation methods must include at least two (2) of the following:
- practical application of installation and maintenance of plastic pipe systems
 - steel pipeline coating repair
 - steel pipeline coating testing (jeeper)
 - steel, field joint coating
 - connection of PE to steel mains
 - steel mains welding
 - steel mains repair
 - sleeve application
 - clamp application
 - hot tap and stopple
 - high pressure stop off
 - bagtube
 - squash/squeeze off jacks
 - squash/squeeze off pliers

Unit Mapping Information

This unit replaces and is equivalent to UEGNSG207 Coordinate construction, laying and testing of gas distribution pipelines.

Links

Companion Volume Implementation Guides are found in VETNet -
<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=6a6c032e-ffcb-4f3d-8063-415efbd261e8>

Assessment Requirements for UEGNSG215 Coordinate construction, laying and testing of gas distribution pipelines

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 relevant work health and safety (WHS)/occupational health and safety (OHS) requirements, including:
- ensuring emergency response procedures are in place
- hazard identification and reporting
- implementing risk control measures
- selecting and using correct personal protective equipment (PPE)
- working safely with hazardous materials and equipment
- attaining relevant work permits
- communicating schedules to coordinate person/s
- communicating with other authorities and relevant stakeholders
- completing gas distribution pipeline construction, laying and testing coordination
- completing relevant documentation records and reports
- complying with regulations, industry standards, legislative requirements, codes of practice, manufacturers' recommendations and specifications, and environmental requirements
- conducting quality and safety checks
- conducting site inspections
- coordinating construction, laying and testing of pipelines
- dealing with unplanned events/situations in accordance with workplace procedures in a manner that minimises risk to personnel and equipment
- obtaining and complying with relevant workplace procedures
- performing final inspections
- positioning road signs, barriers and warning devices
- preparing to coordinate pipeline installation
- rehabilitating and maintaining a clean work site
- returning pipeline to service
- using relevant equipment and tools
- verifying location of other services.

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:

- coordination of resources
- compatibility of materials
- effective communication techniques
- final inspections of pipeline processes
- hazardous activities, including:
 - lifting, climbing, working in confined spaces or aloft, and use of power tools
- isolation and de-isolation systems
- location of other services
- planning techniques to coordinate pipeline installation
- problem-solving techniques
- range of materials and jointing techniques relevant to environment and conditions
- regulations, industry standards, legislative requirements, codes of practice, manufacturers' recommendations and specifications, and environmental requirements
- relevant person/s, equipment, tools and processes required for the work
- relevant workplace documentation, records and reports
- relevant workplace policies and procedures
- required work permits
- site preparation, site inspections, secure work area, safety plans and safety checks
- techniques to coordinate construction, laying and insert pipelines and associated equipment
- relevant WHS/OHS legislated requirements, including:
 - applicable emergency procedures
- environmental and sustainable energy principles and practices
- hazard warnings and safety signs
- hazardous materials
- hazards, risk assessment and control measures
- job safety assessments
- PPE
- site reinstatement/ return to service
- traffic management plans.

Assessment Conditions

Assessors must hold credentials specified within the Standards for Registered Training Organisations current at the time of assessment.

Assessment must satisfy the Principles of Assessment and Rules of Evidence and all regulatory requirements included within the Standards for Registered Training Organisations current at the time of assessment.

Assessment must occur in workplace operational situations where it is appropriate to do so; where this is not appropriate, assessment must occur in simulated workplace operational situations that replicate workplace conditions.

Assessment processes and techniques must be appropriate to the language, literacy and numeracy requirements of the work being performed and the needs of the candidate.

Resources for assessment must include access to:

- a range of relevant exercises, case studies and/or 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>

UEGNSG230 First on site response to gas pipeline emergencies

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 carry out first on-site response to a gas distribution or transmission pipeline emergency incident, and complete response and relevant documentation.

These incidents may include gas escapes, gas outages, security breaches, fires, injury and damage.

It includes carrying out first on-site emergency response by assessing the extent of the situation and type of incident, making the area safe and reporting back to response/control centre.

It also includes liaising with other authorities and emergency services, remaining on site and maintaining site safety until support arrives as required.

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

Pre-requisite Unit

CPPFES2005 Demonstrate first attack firefighting equipment

HLTAID011 Provide First Aid

UEGNSG141 Apply workplace health and safety regulations, codes and practices in the gas supply industry

Competency Field

Gas Distribution and Transmission

Unit Sector

Gas Industry

Elements and Performance Criteria

ELEMENTS

PERFORMANCE CRITERIA

Elements describe the essential Performance criteria describe the performance needed to

outcomes.

demonstrate achievement of the element.

1 Plan first on-site emergency response

- 1.1** Work health and safety (WHS)/occupational health and safety (OHS) and environmental measures for the site are identified, obtained and applied
- 1.2** Details of incident are confirmed with supervisor, control centre and/or radio room in accordance with workplace procedures
- 1.3** Incident response is discussed with relevant person/s to establish and confirm the work schedule
- 1.4** WHS/OHS procedures, environmental and sustainable energy measures and workplace policies and procedures are obtained and applied
- 1.5** Hazards and threats to the gas pipeline and work site are identified, WHS/OHS risks assessed and control measures are reported, prioritised, implemented and monitored in accordance with workplace procedures
- 1.6** Work permits and/or notifications are obtained as required to ensure the work is approved, recorded, coordinated and performed safely in accordance with workplace procedures
- 1.7** Resources including person/s, equipment, tools and personal protective equipment (PPE) required for the work are identified, scheduled, obtained and checked for correct operation and safety
- 1.8** Supervisor, coordination centre, emergency authorities and land owners are communicated with regularly to confirm the emergency response in accordance with workplace procedures
- 1.9** Person/s participating in the emergency response are fully briefed and responsibilities coordinated and authorised in accordance with workplace procedures
- 1.10** Site preparation, safety plan and work schedule are confirmed with relevant person/s in accordance with workplace procedures

2 Carry out first on-site emergency response

- 2.1** WHS/OHS and risk control measures, schedule of work and workplace procedures for carrying out emergency response are followed

- 2.2 A safe work zone is established on site and reported back to relevant stakeholders in accordance with workplace procedures
 - 2.3 First aid and other emergency procedures are performed, as required, in accordance with workplace procedures
 - 2.4 Hazardous activities are conducted safely in accordance with workplace procedures
 - 2.5 Hazard warnings and safety signs are recognised and newly identified hazards assessed and WHS/OHS risks and incidents reported to authorised person/s for directions in accordance with workplace procedures
 - 2.6 Equipment and systems are monitored to ensure correct operation and performance in accordance with manufacturer instructions and workplace procedures
 - 2.7 Liaison with third parties and relevant stakeholders is maintained to ensure pipeline is monitored and threat to the pipeline is determined and communicated in accordance with workplace procedures
 - 2.8 Supervisor, coordination centre, emergency authorities and land owners are communicated with regularly to keep them updated on the emergency response in accordance with workplace procedures
 - 2.9 Preliminary evidence is collected from the scene in accordance with workplace procedures
 - 2.10 Gathered evidence is analysed and any repairs and/or maintenance required is identified in accordance with workplace procedures
 - 2.11 Site safety is maintained until support arrives in accordance with workplace procedures
 - 2.12 Unplanned events, including emergency level being escalated, are referred to authorised person/s for directions in accordance with workplace procedures
 - 2.13 Quality checks are carried out in accordance with job instructions and workplace procedures
- 3 Complete response and relevant documentation**
- 3.1 WHS/OHS risk control measures for work completion are followed

- 3.2 Any incidents and injuries are reported to relevant person/s and followed up in accordance with job requirements and workplace procedures
- 3.3 Incident site, reports, risk control measures and permit conditions are handed over to repair coordinator or relief response person in accordance with workplace procedures
- 3.4 Tools, equipment and any surplus resources/materials are cleaned, checked and securely stored in accordance with workplace procedures
- 3.5 Work permit/s are completed and signed off in accordance with job requirements and workplace procedures
- 3.6 Work completion documentation, records reports and as installed/modified drawing/s are completed and provided to appropriate person/s in accordance with workplace procedures
- 3.7 Debriefing with relevant person/s is conducted to discuss strengths and weaknesses of incident response in accordance with workplace procedures

Foundation Skills

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

Range of Conditions

Range is restricted to essential operating conditions and any other variables essential to the work environment.

Non-essential conditions may be found in the UEG Gas Industry Training Package Companion Volume Implementation Guide.

Unit Mapping Information

This unit replaces and is equivalent to UEGNSG221 First on site response to gas pipeline emergencies.

Links

Companion Volume Implementation Guides are found in VETNet -
<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=6a6c032e-ffcb-4f3d-8063-415efbd261e8>

Assessment Requirements for UEGNSG230 First on site response to gas pipeline emergencies

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 and performance criteria on at least two separate occasions and include:

- analysing evidence to determine required repairs and/or maintenance
- applying environmental and sustainable energy principles and practices
- applying problem-solving techniques
- applying relevant legislation, standards, regulations and codes of practice
- applying relevant work health and safety (WHS)/occupational health and safety (OHS) requirements, including:
 - actioning and reporting accidents and incidents
 - hazard identification and reporting
 - implementing risk control measures
 - recognising and assessing hazard warnings and safety signs
 - selecting and using relevant personal protective equipment (PPE)
 - undertaking hazardous activities in a safe manner
- assessing the incident and establishing a safe working site/zone
- carrying out first on-site emergency response plan and procedures
- communicating effectively with relevant person/s, third parties and stakeholders
- completing required documentation and reporting
- dealing with unplanned events/situations in accordance with workplace procedures in a manner that minimises risk to personnel and equipment
- following manufacturer instructions
- following workplace policies and procedures
- handing over to relevant person/s
- identifying and evaluating threats to the gas pipeline and work site
- investigating the incident and collecting evidence
- obtaining and using relevant materials and resources
- obtaining relevant work permits/authorisations
- participating in debrief
- planning first on-site emergency response.

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:

- effective communication and liaison with relevant stakeholders, including:
 - workplace colleagues, supervisors and managers
 - relevant customers and suppliers
 - regulatory bodies
 - property/land owners (including traditional land owners) and tenants
 - emergency response organisations
 - repair coordinator or relief response person
 - plant operators and contractors
 - coordination centre, control centre and radio room
- emergency site assessment
- emergency/incident control procedures for applicable enterprise/work site
- environmental and sustainable energy principles and practices
- escalation of emergency levels
- hazardous activities, including lifting, climbing, working in confined spaces and aloft, and use of power tools
- hazards, risk assessments and control measures
- first aid and other emergency response workplace procedures
- nature of a situation and preliminary assessment
- problem solving in a first response role
- relevant legislation, standards, regulations and codes of practice
- relevant permits and notifications required
- relevant resources including people, tools, equipment, systems and PPE
- relevant WHS/OHS legislated requirements
- relevant workplace documentation
- relevant workplace documentation, report and records
- relevant workplace policies and procedures
- site investigation and evidence gathering techniques
- site preparation, work schedules and safety plans.

Assessment Conditions

As a minimum, assessors must satisfy applicable regulatory requirements, which include requirements in the Standards for Registered Training Organisations current at the time of assessment.

As a minimum, assessment must satisfy applicable regulatory requirements, which include requirements in the Standards for Registered Training Organisations current at the time of assessment.

Assessment must occur in workplace operational situations where it is appropriate to do so;

where this is not appropriate, assessment must occur in simulated workplace operational situations that replicate workplace conditions.

Assessment processes and techniques must be appropriate to the language, literacy and numeracy requirements of the work being performed and the needs of the candidate.

Resources for assessment must include access to:

- a range of relevant exercises, case studies and/or 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>

UEGNSG301 Conduct emergency site control on gas transmission assets

Modification History

Release 1. This is the first release of this unit of competency in the UEG - Gas Industry Training Package.

Application

This new unit involves the skills and knowledge required to coordinate with varied stakeholders during an onsite gas emergency on gas transmission assets.

Stakeholders include emergency service managers, asset owners, emergency response personnel, police and fire responders, and repair crews to ensure site control and safety is maintained while effectively controlling key response activities.

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

Pre-requisite Unit

Not applicable

Competency Field

Gas Transmission

Unit Sector

Gas Industry

Elements and Performance Criteria

ELEMENTS

Elements describe the essential outcomes.

1 Prepare for site control of emergency on gas transmission assets

PERFORMANCE CRITERIA

Performance criteria describe the performance needed to demonstrate achievement of the element.

- 1.1** Workplace procedures and contingency plans for dealing with emergencies and critical incidents are identified
- 1.2** Emergency is evaluated and activities are identified and

sequenced for the most efficient and effective outcome

- 1.3 Work schedule/s, drawings, plans, job requirements and material lists are obtained, analysed and confirmed
- 1.4 Identified repair/modification communicated is communicated to relevant stakeholders in accordance with workplace procedures
- 1.5 Work health and safety (WHS)/occupational health and safety (OHS), environmental and sustainable energy policies and procedures related to the work are identified to ensure safe systems of work are followed
- 1.6 Relevant stakeholders, public and emergency services, repair crews included in the coordination are determined and consulted as required
- 1.7 Key actions, events and communications are documented in a log of events
- 1.8 WHS/OHS hazards and risks are identified, assessed and prioritised

2 Coordinate with varied stakeholders during an onsite gas emergency

- 2.1 WHS/OHS and environmental risk control measures and policies and workplace procedures are implemented and monitored in accordance with workplace procedures
- 2.2 Communication with relevant stakeholders, public and emergency services, repair crews, clients and landowners are conducted and coordinated in accordance with workplace procedures
- 2.3 Key response activities are coordinated to ensure completion to required industry and asset owner standards
- 2.4 Actions are taken to reduce the effect of the incident to minimise threats to the public, pipeline, gas transmission assets, facilities and environment in accordance with requirements, incident response strategy and workplace procedures
- 2.5 Incident is continually monitored and assessed for changes and responded to in accordance with incident response strategy and workplace procedures
- 2.6 Unplanned situations are responded to in accordance with workplace procedures in a manner that minimises

risk to personnel and equipment

- 2.7** Coordination is done to ensure affected assets are inspected, tested and secured and quality and safety checks of work undertaken in accordance with industry standards and workplace procedures

3 Conclude site control of emergency on gas transmission assets

- 3.1** Coordination is conducted with relevant person(s) to ensure that system is recommissioned to meet industry requirements and work undertaken is checked against work schedule for conformance and anomalies reported in accordance with workplace procedures
- 3.2** Work completion documentation, records and reports are completed, processed and appropriate stakeholders notified
- 3.3** Accidents and injuries are reported as required in accordance with workplace procedures
- 3.4** Emergency response is evaluated with relevant stakeholders, public and emergency services, repair crews, clients, landowners and regulatory bodies in accordance with workplace procedures
- 3.5** Debriefing is conducted with relevant stakeholders to review incident response procedures and develop recommendations for changes to workplace procedures, as required
- 3.6** Accurate records and drawings are completed and submitted to reflect repairs and modifications

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 Volume Implementation Guide.

Unit Mapping Information

This is a new unit.

Links

Companion Volume Implementation Guides are found in VETNet -
<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=6a6c032e-ffcb-4f3d-8063-415efbd261e8>

Assessment Requirements for UEGNSG301 Conduct emergency site control on gas transmission assets

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 and performance criteria on at least two separate incident scenarios and include:

- analysing and assessing incident information
- applying contingency plans
- applying environmental and sustainable energy principles and practices
- applying planning skills
- applying relevant legislation, standards, regulations and codes of practice
- applying relevant work health and safety (WHS)/occupational health and safety (OHS) requirements, including:
 - emergency response procedures
 - hazard identification and reporting
 - implementing risk control measures
 - maintaining a suitable exclusion zone
 - selecting and using correct personal protective equipment (PPE)
 - working safely with hazardous materials and equipment
- communicating and coordinating activities with relevant stakeholders, including:
 - asset owners, land owners and users
 - emergency response organisations
 - emergency response personnel
 - emergency service managers
 - police and fire responders
 - regulatory bodies
 - relevant customers and suppliers
 - repair crew
 - the media
 - workplace colleagues
 - workplace managers
- communicating effectively in the workplace
- completing procedures for managing critical incidents

- completing relevant workplace documentation, reports and records
- coordinating the recommissioning gas transmission system to operational conditions and notifying relevant stakeholders of completion of work
- dealing with unplanned events and situations in accordance with workplace procedures in a manner that minimises risk to personnel and equipment
- evaluating, responding and reporting threats and incidents to gas transmission assets
- implementing incident response strategies
- minimising threats to the public, pipeline, assets, facilities and environment
- monitoring and assessing incident for changes
- monitoring field work
- operating communications equipment
- participating in debrief
- preparing and planning for coordination of repairs and modifications of gas transmission assets
- preparing to manage critical incidents
- responding correctly to alarms
- updating records and drawings to reflect repairs/modifications
- using relevant field permit to work systems.

Knowledge Evidence

Evidence required to demonstrate competence in this unit must be relevant to and satisfy all of the requirements of the elements and performance criteria and include knowledge of:

- awareness of steel anomaly assessment and criteria
- communication techniques required in a supervisory role
- comply with environmental and cultural issues requirements
- consideration for pressure reduction in consultation with relevant stakeholders, including automatic pressure reduction triggers
- contingency plans
- debriefs
- emergency and accident situations
- emergency management in the gas sector
- emergency/incident control procedures
- gas industry products, processes and characteristics
- gas industry reports and documentation
- general principles associated with pipelines and other gas infrastructure
- hazards, risk assessments and control measures
- identification of relevant gas industry plant, equipment materials, including abnormal operating conditions
- incident response strategies
- pipeline operational parameters
- problem-solving techniques

- procedure for escalating emergencies
- relevant gas industry documents
- relevant legislation, standards, regulations and codes of practice, including AS 2885 Pipelines - Gas and liquid petroleum
- relevant manufacturer specifications
- relevant permits and notifications required
- relevant safe work method statements (SWMS), job safety assessments and risk mitigation processes
- relevant sections of the pipeline and associated standards and legislation, including AS 2885 Pipelines - Gas and liquid petroleum
- relevant stakeholders, including:
 - asset owners, land owners and users
 - emergency response organisations
 - emergency response personnel
 - emergency service managers
 - police and fire responders
 - regulatory bodies
 - relevant customers and suppliers
 - repair crew
 - the media
 - workplace colleagues
 - workplace managers
- relevant WHS/OHS regulations, policies and procedures
- relevant workplace documentation
- relevant workplace policies and procedures
- safe working practices for managing emergencies and critical incidents for gas infrastructure and assets
- security breach procedures
- strategies for dealing with difficult situations.

Assessment Conditions

Assessors must hold credentials specified within the Standards for Registered Training Organisations current at the time of assessment.

Assessment must satisfy the Principles of Assessment and Rules of Evidence and all regulatory requirements included within the Standards for Registered Training Organisations current at the time of assessment.

Assessment must occur in 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 personal protective equipment (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>

UEGNSG302 Conduct transmission pipeline emergency repair

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 conduct a transmission pipeline emergency repair.

It includes evaluating incidents, identifying and conducting repairs and recommissioning the gas transmission pipeline under emergency situations, notifying relevant person/s of work completion, and completing documentation and reports in accordance with relevant industry standards and workplace procedures.

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 and as part of a team, under direct and/or indirect supervision, use discretion and judgement, and take responsibility for the quality of their output.

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

Pre-requisite Unit

Not applicable

Competency Field

Gas Transmission

Unit Sector

Gas Industry

Elements and Performance Criteria

ELEMENTS

PERFORMANCE CRITERIA

Elements describe the essential Performance criteria describe the performance needed to

outcomes.

demonstrate achievement of the element.

1 Plan first on-site emergency response

- 1.1** Work health and safety (WHS)/occupational health and safety (OHS) procedures, environmental and sustainable energy measures and workplace policies and procedures are identified, obtained and applied
- 1.2** Details of incident are confirmed with supervisor, control centre and/or radio room in accordance with workplace procedures
- 1.3** Incident response is discussed with relevant person/s to establish appropriate isolation and repair methods
- 1.4** Hazards and threats to the gas pipeline and work site are identified, WHS/OHS risks are assessed and control measures are reported, prioritised, implemented and monitored in accordance with workplace procedures
- 1.5** Resources including person/s, equipment, tools and personal protective equipment (PPE) required for the work are identified, scheduled, obtained and checked for correct operation and safety
- 1.6** Supervisor and/or Site Controller, coordination centre, emergency authorities and landowners are communicated with regularly to confirm the emergency response in accordance with workplace procedures
- 1.7** Person/s participating in the work are fully briefed and responsibilities coordinated and authorised in accordance with workplace procedures
- 1.8** Site preparation, safety plan and work schedule are confirmed with relevant person/s in accordance with workplace procedures

2 Prepare to conduct transmission pipeline repair

- 2.1** Incidents are evaluated, work schedule/s, drawings, plans, specifications, job requirements and material lists are obtained, analysed and confirmed and identified repair is communicated to relevant person/s in accordance with workplace procedures
- 2.2** WHS, environmental hazard and risk control measures are monitored and adjusted as required, to ensure ongoing effectiveness in accordance with workplace procedures
- 2.3** Relevant work permit/s are obtained to access, isolate and de-isolate systems and perform work in accordance

with job requirements and workplace procedures

2.4 Equipment, tools and personal protective equipment (PPE) required for the job are identified, obtained and checked for correct operation and safety in accordance with workplace procedures

2.5 Site is prepared to minimise risk and damage to property, commerce and individuals in accordance with the work schedule and workplace procedures

2.6 Appropriate signage, barriers and warning devices are positioned in accordance with job requirements and workplace procedures

3 Conduct transmission pipeline repair

3.1 Hazard warnings and safety signs are recognised, WHS/OHS hazards and risks assessed and reported to authorised persons for directions in accordance with workplace procedures

3.2 Hazardous activities are conducted safely in accordance with regulatory requirements and workplace procedures

3.3 Pipeline repair work is conducted and monitored, relevant repair techniques are applied and amendments and modifications in the pipeline repair are undertaken in accordance with workplace procedures

3.4 Unplanned situations are responded to in accordance with workplace procedures in a manner that minimises risk to personnel and equipment

3.5 Pipeline is inspected and tested, and quality checks of work undertaken in accordance with industry standards and workplace procedures

4 Recommission gas transmission pipeline to operational conditions and complete relevant documentation

4.1 System is recommissioned to meet transmission pipeline requirements and work undertaken is checked against work schedule for conformance and anomalies reported in accordance with workplace procedures

4.2 Any incidents, accidents and injuries are reported to relevant person/s and followed up in accordance with job requirements and workplace procedure

4.3 Incident site, reports, risk control measures and permit conditions are handed over to repair coordinator or relief response person in accordance with workplace

procedures

- 4.4 Work site is rehabilitated and made safe in accordance with workplace procedures
- 4.5 Relevant work permit/s are signed off and closed and pipeline is returned to service in accordance with job requirements and workplace procedures
- 4.6 Records and drawings are updated to reflect repair work completion records and reports as installed and relevant documentation completed, processed and appropriate person/s notified in accordance with workplace procedures
- 4.7 Debriefing with relevant person/s is conducted to discuss incident response in accordance with workplace procedures

Foundation Skills

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

Range of Conditions

Range is restricted to essential operating conditions and any other variables essential to the work environment.

Non-essential conditions may be found in the UEG - Gas Industry Training Package Companion Volume Implementation Guide.

Unit Mapping Information

This is a new unit.

Links

Companion Volume Implementation Guides are found in VETNet - <https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=6a6c032e-ffcb-4f3d-8063-415efbd261e8>

Assessment Requirements for UEGNSG302 Conduct transmission pipeline emergency repair

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 and performance criteria on at least two separate occasions and include:

- analysing evidence to determine required repairs
- applying controls for static, stray and induced electrical currents and faults
- applying environmental and sustainable energy principles and practices
- applying problem-solving techniques
- applying relevant legislation, standards, regulations and codes of practice
- applying relevant work health and safety (WHS)/occupational health and safety (OHS) requirements, including:
 - actioning and reporting accidents and incidents
 - ensuring emergency response procedures are in place
 - hazard identification and reporting
 - implementing risk control measures
 - recognising and assessing hazard warnings and safety signs
 - selecting and using correct personal protective equipment (PPE)
 - undertaking hazardous activities in a safe manner
 - working safely with hazardous materials and equipment
- assessing the incident and establishing a safe working site or zone
- communicating effectively with relevant person/s, third parties and stakeholders
- completing work and relevant documentation
- conducting quality and safety checks
- conducting transmission pipeline repairs in accordance with manufacturer, asset owners instructions and approved procedures
- cooperating with and providing input to persons investigating the incident and collecting evidence
- dealing with unplanned events and situations in accordance with workplace procedures in a manner that minimises risk to personnel and equipment
- following workplace policies and procedures
- handing over to relevant person/s
- identifying and evaluating threats to the gas pipeline and work site

- identifying leaks
- interpreting technical drawings, plans and materials lists
- obtaining relevant resources, specifications, tools, equipment and materials
- obtaining relevant work permits and authorisations
- participating in debrief
- preparing and planning for repairs of a gas transmission pipeline
- recommissioning gas transmission pipeline to operational conditions and notifying relevant person/s of completion of work
- updating records and drawings to reflect repairs.

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:

- approved pipeline repair methods and techniques, including required equipment, materials, PPE and qualified persons for activities
- communication techniques
- criteria for pressure reduction in consultation with relevant stakeholders
- controls for stray, static and induced electrical currents and faults
- effective communication and liaison techniques with relevant stakeholders, including:
 - emergency response organisations
 - emergency site controller
 - plant operators and contractors
 - property/land owners (including traditional land owners) and tenants
 - regulatory bodies
 - relevant customers and suppliers
 - workplace colleagues, supervisors and managers
- emergency site assessment
- emergency/incident control procedures for applicable enterprise/work site
- environmental and sustainable energy principles and practices
- first aid and other emergency response workplace procedures
- hazard warnings and safety signs
- hazardous activities, including lifting, climbing, working in confined spaces and aloft, and use of power tools
- hazards, risk assessments and control measures
- information relevant to pipeline repair
- maintaining records
- monitoring process of the pipeline system during repair work
- nature of a situation and preliminary assessment
- preparation process for testing and inspection of pipeline system
- preparation process of the work site for repair work
- problem-solving techniques

- process for escalation of emergency levels
- properties and characteristics of gas relevant to the pipeline system to be tested
- recommission system and restore site
- relevant legislation, standards, regulations and codes of practice, including AS 2885 Pipelines - Gas and liquid petroleum
- relevant manufacturer specifications
- relevant permits and notifications required
- relevant resources including people, tools, equipment, systems and PPE
- relevant stakeholders, including authorised persons, authorities, clients and land owners
- relevant technical drawings, plans, material lists or specifications
- relevant testing and inspection methods appropriate to the system under test
- relevant timeframes
- relevant tools and equipment to inspect and test the pipeline system
- relevant WHS/OHS legislated requirements, including:
 - environmental and sustainable energy principles and practices
 - hazards, risk assessment and control measures
- relevant workplace documentation, report and records
- site investigation and evidence gathering techniques
- site preparation, work schedules and safety plans
- site inspections
- techniques to record and interpret test data.

Assessment Conditions

Assessors must hold credentials specified within the Standards for Registered Training Organisations current at the time of assessment.

Assessment must satisfy the Principles of Assessment and Rules of Evidence and all regulatory requirements included within the Standards for Registered Training Organisations current at the time of assessment.

Assessment must occur in workplace operational situations where it is appropriate to do so; where this is not appropriate, assessment must occur in simulated workplace operational situations that replicate workplace conditions.

Assessment processes and techniques must be appropriate to the language, literacy and numeracy requirements of the work being performed and the needs of the candidate.

Resources for assessment must include access to:

- a range of relevant exercises, case studies and/or other simulations
- relevant and appropriate materials, tools, equipment and personal protective equipment (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>

UEGNSG303 Carry out transmission pipeline construction work activities

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 carry out and complete gas transmission pipeline construction work activities, in accordance with relevant legislation, industry standards, codes of practice and environmental, safety and workplace procedures.

It includes working in a gas transmission construction environment, using the correct tools and equipment to conduct the activities and completing workplace documentation.

Pipeline construction work may include slinging, welding, trenching, shoring, hydro testing, pipeline coating and coating testing, cathodic protection components and directional drilling.

The application of the skills and knowledge described in this unit may require a licence/registration to practise in the workplace.

Other conditions may apply under state and territory legislative and regulatory licensing requirements which must be confirmed prior to commencing this unit.

Pre-requisite Unit

Not applicable

Competency Field

Transmission

Unit Sector

Gas Industry

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 carry out transmission pipeline construction work activities	1.1 Work health and safety (WHS)/occupational health and safety (OHS) workplace policies and procedures for the site are identified and applied 1.2 Job requirements and workplace procedures for the site are obtained and discussed with relevant person/s to confirm the work schedule 1.3 Environmental and sustainable energy policies and procedures are obtained and applied 1.4 Hazards are identified, risks are assessed and control measures prioritised, implemented and monitored in accordance with workplace procedures 1.5 Responsibility under the relevant work permit and/or relevant notification is obtained and confirmed with relevant person/s in accordance with job requirements and workplace procedures 1.6 Equipment, plant, tools and personal protective equipment (PPE) required for the transmission pipeline construction work are identified, scheduled, obtained and checked for correct operation and safety in accordance with workplace procedures 1.7 Relevant person/s are identified and consulted to ensure the work is coordinated effectively and safely in accordance with WHS/OHS requirements and workplace procedures 1.8 Materials, plans, diagrams, drawings, safety data sheets (SDS) and resources required for the transmission work activity are confirmed, scheduled and obtained in accordance with workplace procedures 1.9 Site preparation, safety plans and work schedules are confirmed with relevant person/s in accordance with workplace procedures
2 Carry out transmission pipeline construction work activity	2.1 WHS/OHS risk control measures, schedule of work and workplace procedures for carrying out the work are followed 2.2 Materials, tools, equipment and measuring devices required for the work are selected and used correctly and safely in accordance with manufacturer instructions and workplace procedures

	2.3 Hazardous activities are conducted safely in accordance with WHS/OHS workplace procedures and job instructions 2.4 Transmission pipeline construction is carried out to the required standard without waste of materials or damage to apparatus, circuits, the surrounding environment or services using sustainable energy principles 2.5 WHS/OHS risks and incidents are reported to authorised person/s for directions in accordance with workplace procedures 2.6 Unplanned events are referred to authorised person/s for directions in accordance with workplace procedures 2.7 Quality and safety checks of work are carried out in accordance with work instructions and workplace procedures
3 Complete transmission pipeline construction activities	3.1 WHS/OHS risk control measures for work completion are followed 3.2 Work site is tidied and made safe in accordance with workplace procedures 3.3 Tools, equipment and any surplus resources and materials are cleaned, checked and securely stored in accordance with workplace procedures 3.4 Appropriate person/s are notified of work completion in accordance with workplace procedures 3.5 Documentation is completed accurately and provided to relevant person/s in accordance with workplace procedures

Foundation Skills

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

Range of Conditions

Range is restricted to essential operating conditions and any other variables essential to the work environment.

Non-essential conditions may be found in the UEG Gas Industry Training Package Companion Volume Implementation Guide.

tools and equipment must include at least six (6) of the following:

- general concrete mixer
- general vacuum cleaner
- general trolley
- non-pressurised pumps and hoses
- wheelbarrows
- traffic barriers
- extra low voltage lighting equipment
- hand held tools
- holiday detection equipment
- power tools
- pressurised pumps and hoses
- tru bend
- hand wrapping machines

Unit Mapping Information

This unit replaces and is equivalent to UEGNSG136 Carry out transmission pipeline construction work activities.

Links

Companion Volume Implementation Guides are found in VETNet -
<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=6a6c032e-ffcb-4f3d-8063-415efbd261e8>

Assessment Requirements for UEGNSG303 Carry out transmission pipeline construction work activities

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 relevant work health and safety (WHS)/occupational health and safety (OHS) requirements, including:
 - hazard identification and reporting
 - implementing risk control measures
- applying relevant industry standards, guidelines, codes of practice and regulations
- applying sustainable energy and environmental principles and practices, including minimising waste
- carrying out transmission pipeline construction work activities
- choosing and checking the appropriate equipment, plant, tools, measuring devices and PPE for transmission construction work
- cleaning and storing tools, equipment and measuring devices
- communicating in a team environment
- completing work activities and relevant documentation
- complying with relevant regulations, industry standards, legislative requirements, codes of practice, manufacturers' recommendations and specifications, and environmental requirements
- dealing with unplanned events and providing appropriate solutions in accordance with workplace procedures
- following workplace policies and procedures
- identifying, selecting and using appropriate equipment, tools and measuring devices
- maintaining a clean and safe work site
- obtaining and interpreting relevant plans, drawings and diagrams
- obtaining job requirements, work instructions, safety plan and work schedule
- performing quality and safety checks
- preparing to carry out transmission pipeline construction work activities
- reading and interpreting workplace documents
- undertaking hazardous activities in a safe manner.

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:

- communication protocols
- environmental and sustainable energy principles and practices
- hazards and hazardous activities in the workplace
- quality and safety checks
- relevant equipment, plant, tools, measuring devices and PPE for transmission construction work
- relevant materials, safety data sheets (SDS), plans, diagrams, drawings and resources
- relevant regulations, industry standards, legislative requirements, codes of practice, manufacturers' recommendations and specifications, and environmental requirements
- relevant safety and environmental hazards and risk mitigation measures
- relevant technical standards
- relevant WHS/OHS legislated requirements
- relevant work permits and/or notifications
- relevant workplace documentation
- relevant workplace policies and procedures
- site preparation, safety plans job requirements and work schedules
- techniques to minimise waste
- transmission pipeline construction activity lifecycle
- transmission pipeline construction activities, including:
 - cathodic protection components
 - directional drilling
 - hydro testing
 - pipeline coating and coating testing
 - shoring
 - slinging
 - trenching
 - welding.

Assessment Conditions

Assessors must hold credentials specified within the Standards for Registered Training Organisations current at the time of assessment.

Assessment must satisfy the Principles of Assessment and Rules of Evidence and all regulatory requirements included within the Standards for Registered Training Organisations current at the time of assessment.

Assessment must occur in workplace operational situations where it is appropriate to do so; where this is not appropriate, assessment must occur in simulated workplace operational

situations that replicate workplace conditions.

Assessment processes and techniques must be appropriate to the language, literacy and numeracy requirements of the work being performed and the needs of the candidate.

Resources for assessment must include access to:

- a range of relevant exercises, case studies and/or 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>

UEGNSG304 Commission or decommission gas transmission pipelines

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 commission and decommission gas transmission pipelines in accordance with relevant legislation, standards, regulations, codes of practice and workplace procedures.

It includes planning, undertaking and completing the commissioning/decommissioning of gas transmission pipelines and completing relevant documentation.

The application of the skills and knowledge described in this unit may require a licence/registration to practise in the workplace.

Other conditions may apply under state and territory legislative and regulatory licensing requirements which must be confirmed prior to commencing this unit.

Pre-requisite Unit

Not applicable.

Competency Field

Gas Transmission

Unit Sector

Gas Industry

Elements and Performance Criteria

ELEMENTS

Elements describe the essential outcomes.

1 Plan to commission/decommission

PERFORMANCE CRITERIA

Performance criteria describe the performance needed to demonstrate achievement of the element.

1.1 Work schedule/s, drawings, plans, job requirements and material lists are obtained, analysed and confirmed if

gas transmission pipelines

necessary by site inspection in accordance with workplace procedures

- 1.2** Work health and safety (WHS)/occupational health and safety (OHS) workplace policies and procedures for the sites are identified, obtained and applied
- 1.3** Job requirements and workplace procedures are obtained for all work sites and communicated to relevant person/s in accordance with workplace procedures
- 1.4** Environmental and sustainable energy policies and procedures are obtained, communicated and applied
- 1.5** Work is prioritised and sequenced by management for completion within acceptable timeframes following consultation with relevant person/s in accordance with workplace procedures
- 1.6** Hazards are identified, WHS/OHS risks are assessed and control measures prioritised, implemented and monitored in accordance with workplace procedures
- 1.7** Relevant work permit/s are obtained to access, isolate/de-energise systems and perform work in accordance with regulatory requirements and workplace procedures
- 1.8** Scope of work and level of responsibility under the relevant work permit/authorisation is confirmed with relevant person/s in accordance with job requirements and workplace procedures
- 1.9** Person/s, equipment, tools, materials, plans, specifications and personal protective equipment (PPE) required for the work are identified, scheduled, obtained and checked for correct operation and safety in accordance with workplace procedures
- 1.10** First aid officer at the work site is confirmed with relevant person/s in accordance with job requirements and workplace procedures
- 1.11** Communication issues with relevant stakeholders are resolved and work coordinated by management in accordance with work schedule and workplace procedures
- 1.12** Pipeline is cleaned, pigged, bypassed and checked for commissioning/decommissioning readiness in

accordance with workplace procedures

- 1.13 Site is prepared to minimise risk and damage to property, commerce and individuals in accordance with the work schedule and workplace procedures
- 1.14 Person/s participating in the work are briefed and responsibilities confirmed in accordance with job requirements and workplace procedures
- 1.15 Road signs, barriers and warning devices are positioned in accordance with job requirements and traffic management plan

2 Commission/decommissioning gas transmission pipelines

- 2.1 WHS risk control measures, schedules of work and workplace procedures for carrying out work are followed
- 2.2 Materials, tools, equipment and measuring devices required for the work are selected and used correctly and safely in accordance with manufacturer instructions and workplace procedures
- 2.3 Hazardous activities are conducted safely in accordance with WHS/OHS workplace procedures, job instructions and regulatory requirements
- 2.4 Commissioning/decommissioning gas transmission pipelines is performed in agreed timeframe and to industry standards with a minimum of waste or damage to apparatus, circuits, and the surrounding environment or services using sustainable energy principles
- 2.5 Commissioning/decommissioning gas transmission pipelines is performed in accordance with work schedule, job requirements and workplace procedures
- 2.6 Hazard warnings and safety signs are recognised, hazards and WHS/OHS risks assessed and incidents reported to authorised person/s for directions in accordance with workplace procedures
- 2.7 Adjustments are made for unplanned events when commissioning/decommissioning gas transmission pipelines in accordance with workplace procedures
- 2.8 Unplanned events and non-routine problems are referred to authorised person/s for directions in accordance with workplace procedures

	2.9	Relevant reports and quality and safety checks of the work are conducted in accordance with job requirements and workplace procedures
3 Complete work and relevant documentation	3.1	WHS/OHS risk control measures and procedures for completing the work are followed
	3.2	Testing is conducted using relevant tools/equipment and work checked for conformance with job requirements and anomalies reported in accordance with workplace procedures
	3.3	Accidents and injuries are reported in accordance with requirements and workplace procedures
	3.4	Work site is rehabilitated, cleaned up and made safe in accordance with workplace procedures
	3.5	Tools, equipment and any surplus resources and materials are cleaned, checked and stored securely in accordance with workplace procedures
	3.6	Relevant work permit/s are signed off and equipment returned to service in accordance with workplace procedures, job and regulatory requirements
	3.7	Final inspections are undertaken and work completion documentation is finalised, processed and provided to appropriate person/s in accordance with workplace procedures

Foundation Skills

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

Range of Conditions

Range is restricted to essential operating conditions and any other variables essential to the work environment.

Non-essential conditions may be found in the UEG Gas Industry Training Package Companion Volume Implementation Guide.

commissioning or decommissioning gas transmission pipelines must include at least two (2) of the following procedures:

- steel pipeline coating repair
- steel pipeline coating testing
- steel field joint coating

commissioning or decommissioning gas transmission pipelines must include at least two (2) of the following procedures:

- receiving station/city gate operation (pressure regulator knowledge)
- line valve operation
- pressure control

Unit Mapping Information

This unit replaces and is equivalent to UEGNSG344 Commission or decommission gas transmission pipelines.

Links

Companion Volume Implementation Guides are found in VETNet -
<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=6a6c032e-ffcb-4f3d-8063-415efbd261e8>

Assessment Requirements for UEGNSG304 Commission or decommission gas transmission pipelines

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 relevant work health and safety (WHS)/occupational health and safety (OHS) requirements, including:
 - ensuring emergency response procedures are in place
 - identifying and reporting hazards
 - implementing risk control measures
 - working safely with hazardous materials and equipment
- applying problem-solving techniques
- applying sustainable energy and environmental principles and practices
- commissioning/decommissioning gas transmission pipelines
- communicating with relevant person/s, authorities and stakeholders
- completing work and relevant documentation
- complying with regulations, industry standards, legislative requirements, codes of practice, manufacturers' recommendations and specifications, and environmental requirements
- conducting final inspections of work
- conducting quality and safety checks
- dealing with unplanned events/situations in accordance with workplace procedures in a manner that minimises risk to personnel and equipment
- following workplace procedures
- inspecting and testing to identify faults
- interpreting technical drawings, plans and materials lists
- obtaining approvals from authorities and signing off work permits
- obtaining relevant work permits
- planning to commission/decommission gas transmission pipelines
- positioning road signs, barriers and warning devices
- rehabilitating and maintaining a clean work site
- using relevant tools, equipment, measuring devices, personal protective equipment (PPE) and materials
- isolating and de-energising 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 range of conditions and include knowledge of:

- • environmental and sustainable energy principles and practices
- cleaning, pigging and bypassing pipeline procedures
- effective communication techniques
- fault-finding and troubleshooting techniques
- final inspection procedures
- hazardous activities, including lifting, climbing, working in confined spaces or aloft, and use of power tools
- installing bypass apparatus ensuring continuity of supply
- isolating/de-energising systems and processes
- pipeline and component specifications
- procedures for checking pipework is ready, including testing and pigging
- procedures for testing of pipelines
- procedures for testing, adjusting and repairing systems
- quality and safety checks
- regulations, industry standards, legislative requirements, codes of practice, manufacturers' recommendations and specifications, and environmental requirements
- relevant stakeholders
- relevant technical drawings, plans, material lists
- relevant tools and testing equipment
- relevant WHS/OHS legislated requirements, including:
 - hazards, risk assessment and control measures
 - hazard warnings and safety signs
 - PPE
- relevant work permits and/or notifications
- relevant workplace documentation, recording and reporting
- relevant workplace policies and procedures
- site preparation
- traffic management plan
- transmission pipeline commissioning and decommissioning.

Assessment Conditions

Assessors must hold credentials specified within the Standards for Registered Training Organisations current at the time of assessment.

Assessment must satisfy the Principles of Assessment and Rules of Evidence and all regulatory requirements included within the Standards for Registered Training Organisations current at the time of assessment.

Assessment must occur in workplace operational situations only 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>

UEGNSG306 Control gas processing, storage or regasification operations in an LNG storage facility

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 control gas processing, storage or regasification operations in a Liquefied Natural Gas (LNG) storage facility. It includes planning, monitoring and controlling LNG storage and processing operations and shutting down operations in the event of an emergency.

It also includes using relevant resources and equipment, identifying faults and completing relevant reports and documentation.

The application of the skills and knowledge described in this unit may require a licence/registration to practise in the workplace.

Other conditions may apply under state and territory legislative and regulatory licensing requirements which must be confirmed prior to commencing this unit.

Pre-requisite Unit

Not applicable.

Competency Field

Transmission

Unit Sector

Gas Industry

Elements and Performance Criteria

ELEMENTS

Elements describe the essential outcomes.

PERFORMANCE CRITERIA

Performance criteria describe the performance needed to demonstrate achievement of the element.

1 Plan gas processing, storage or regasification operations

- 1.1** Work schedule/s, drawings, plans, job requirements, standard operating procedures (SOP) and material lists are obtained, analysed and site inspection conducted, as required, to determine the preparation work required for planning and coordination
- 1.2** Relevant person/s are consulted and work is prioritised and sequenced for completion within agreed timeframes and to industry standards in accordance with workplace procedures
- 1.3** WHS/OHS, environmental and sustainable energy policies and procedures related to the work are obtained to ensure safe systems of work are followed in accordance with workplace procedures
- 1.4** Hazards and work health and safety (WHS)/occupational health and safety (OHS) risks are identified and prioritised and risk control measures implemented and monitored
- 1.5** Relevant work permit/s are obtained to coordinate the work in accordance with job/regulatory requirements and workplace procedures
- 1.6** Appropriate equipment, tools and personal protective equipment (PPE) required for the job are identified, scheduled, obtained and checked for correct operation and safety in accordance with workplace procedures

2 Control gas processing, storage or regasification operations

- 2.1** WHS/OHS risk control measures and policies and procedures are followed
- 2.2** Systems isolation is performed in accordance with industry standards and workplace procedures
- 2.3** Gas processing, storage or regasification operations are initiated and coordinated ensuring completion in agreed timeframes
- 2.4** Operation of processing and storage system is controlled and monitored to ensure safety and efficiency and system operations communicated to relevant person/s and other work areas in accordance with workplace procedures
- 2.5** Alarm codes, logics and other hazard warnings are correctly recognised and WHS/OHS risks and control

measures monitored, actioned and appropriate authorities consulted in accordance with requirements and workplace procedures

- 2.6 Work schedule is monitored and remedial action taken to address any shortfalls encountered in accordance with requirements and/or workplace procedures
- 2.7 Fault-finding and troubleshooting techniques are applied to problems encountered in accordance with workplace procedures
- 2.8 Relevant work permit/s are signed off, where applicable, and system returned to service and communicated to stakeholders in accordance with requirements and workplace procedures
- 2.9 Quality and safety checks of the work are conducted in accordance with job requirements, workplace procedures and industry standards

3 Shutdown operations and complete relevant documentation

- 3.1 Work undertaken is checked against work schedule for conformance and anomalies and proposed solutions reported to relevant person/s in accordance with workplace procedures
- 3.2 Incidents and injuries are reported in accordance with relevant regulations, standards and workplace procedures
- 3.3 Emergency shutdown procedures are applied in the event of equipment faults/failure or operational parameters being exceeded
- 3.4 Work completion records, reports, documentation and as installed/modified drawing/s are completed, processed and appropriate person/s notified in accordance with workplace procedures

Foundation Skills

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

Range of Conditions

Range is restricted to essential operating conditions and any other variables essential to the work

environment.

Non-essential conditions may be found in the UEG Gas Industry Training Package Companion Volume Implementation Guide.

resources must include at least five (5) of the following:

- pumps
- compressor packages
- valves
- control and monitoring equipment
- mixing equipment
- sampling equipment
- instrument air equipment

incidents must include at least three (3) of the following:

- gas leaks
- gas fires
- equipment failure
- unsafe inventory and supply levels
- electrical supply fires

monitoring of facilities must include at least four (4) of the following:

- pressure
- temperature
- flows
- levels
- corrosion
- stock levels
- gas leaks
- security

equipment faults must include at least four (4) of the following:

- electrical problems
- compressor failure
- pump failure
- out-of-current inspection status
- gauge failure
- loss of containment
- instruments out of calibration

Unit Mapping Information

This is a new unit.

Links

Companion Volume Implementation Guides are found in VETNet - <https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=6a6c032e-ffcb-4f3d-8063-415efbd261e8>

Assessment Requirements for UEGNSG306 Control gas processing, storage or regasification operations in an LNG storage facility

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 and performance criteria on at least two separate occasions and include:

- applying relevant fault-finding and troubleshooting 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:
 - emergency response procedures
 - sustainable energy and environmental principles and practices
 - hazard identification and reporting
 - implementing risk control measures
- communicating and coordinating with relevant stakeholders
- completing relevant reports and documentation
- controlling processing, storage or regasification operations
- dealing with unplanned events
- following workplace procedures, including:
 - emergency shutdown procedures
 - reporting procedures
 - standard operating procedures
- interpreting relevant drawings, plans and material lists
- isolating systems
- obtaining and complying with relevant work permits
- operating relevant control systems
- performing quality and safety checks
- planning control of processing, storage or regasification operations
- recording relevant information
- shutting down operations.

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:

- alarm codes and control logics
- communicating in an LNG storage facility
- emergency response procedures, including shutdown procedures
- gas industry Process and Instrumentation Diagrams, plans and material lists
- gas industry products, processes and characteristics
- plant and equipment in an LNG storage facility, including:
 - alarm and communication equipment
 - compressors or pumps
 - fittings
 - gas analysis equipment
 - hand tools
 - heat exchangers
 - leak detection equipment
 - personal protective equipment
 - pipes, fitting and hoses
 - testing equipment
- properties of LNG
- relevant manufacturer specifications
- relevant permit to work systems
- relevant safe work method statements (SWMS)/job safety assessments or risk mitigation processes
- relevant stakeholders
- relevant technical drawings
- relevant WHS/OHS legislated requirements, including:
 - applicable emergency equipment and procedures
 - environmental and sustainable energy principles and practices
 - hazards, risk assessment and control measures
- relevant workplace documentation and schedules
- relevant workplace policies and procedures, including re-gasification procedures.

Assessment Conditions

Assessors must hold credentials specified within the Standards for Registered Training Organisations current at the time of assessment.

Assessment must satisfy the Principles of Assessment and Rules of Evidence and all regulatory requirements included within the Standards for Registered Training Organisations current at the time of assessment.

Assessment must occur in suitable workplace operational situations where it is appropriate to do so; where this is not appropriate, assessment must occur in suitable simulated workplace operational situations that replicate workplace conditions.

Assessment processes and techniques must be appropriate to the language, literacy and numeracy requirements of the work being performed and the needs of the candidate.

Resources for assessment must include access to:

- a range of relevant exercises, case studies and/or simulations
- relevant and appropriate materials, tools, equipment and personal protective equipment (PPE) currently used in industry
- applicable documentation, including workplace procedures, 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>

UEGNSG307 Coordinate the operation of relevant plant and equipment for transmission pipeline construction

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 coordinate the operation of relevant plant and equipment necessary for the construction of transmission pipelines.

It includes preparing for transmission pipeline construction, coordinating the operation of relevant plant and equipment for transmission pipeline construction, and completing work and relevant documentation.

Plant and equipment used for transmission pipeline construction may include excavator and vacuum lift, bending machine and mandrels, internal line up clamp, tack rig, side boom, roller cradles, rock saw, bucket wheel trencher, sand blasting unit, thermal coil, over ditch wrapping machine, padding machines and mitsu bucket.

The application of the skills and knowledge described in this unit may require a licence/registration to practise in the workplace.

Other conditions may apply under state and territory legislative and regulatory licensing requirements which must be confirmed prior to commencing this unit

Pre-requisite Unit

Not applicable.

Competency Field

Gas Transmission

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 for transmission pipeline construction

- 1.1** Job instructions are obtained and confirmed with relevant person/s
- 1.2** Materials, plans, diagrams, drawings, safety data sheets (SDS), codes of practice and other relevant resources required for the transmission work activity are confirmed, scheduled and obtained in accordance with workplace procedures
- 1.3** Work health and safety (WHS)/occupational health and safety (OHS), environmental, cultural, heritage and sustainable energy policies and procedures for the work are obtained and confirmed relevant person/s
- 1.4** Easement is inspected and assessed using appropriate mediums and civil activities to determine job requirements in accordance with workplace procedures
- 1.5** Person/s participating in the work are communicated with to determine and confirm the work schedule
- 1.6** Suggestions to assist with constructing pipeline easements are made to others involved in the work in accordance with workplace procedures
- 1.7** Hazards and WHS/OHS risks are identified, assessed and prioritised and control measures implemented and monitored in accordance with workplace procedures
- 1.8** Responsibilities under the relevant work permit are obtained and confirmed with relevant person/s in accordance with regulatory requirements and workplace procedures
- 1.9** 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
- 1.10** Responsibilities for first aid and incidents at the work site are checked and confirmed with relevant person/s in accordance with workplace procedures
- 1.11** Third-party issues are referred to appropriate person/s in accordance with industry and community standards

	1.12	Relevant person/s are identified and consulted to ensure the work is coordinated effectively and safely in accordance with WHS/OHS requirements and workplace procedures
2 Operate relevant plant and equipment for transmission pipeline construction	2.1	WHS/OHS risk control measures and policies and procedures are followed in accordance with workplace procedures
	2.2	Hazardous activities are conducted safely in accordance with job instructions, regulatory requirements and workplace procedures
	2.3	Work area is isolated, made safe and civil activities and construction of pipeline easements are carried out in accordance with job instructions and workplace procedures and relevant codes of practice
	2.4	Easement is constructed to ensure completion in agreed timeframes and to industry standards with a minimum of waste in accordance with job requirements and workplace procedures
	2.5	Potential hazards and safety risks are identified and reported to authorised person/s for directions in accordance with established procedures
	2.6	Unplanned events and non-routine problems are referred to authorised person/s for directions in accordance with workplace procedures
	2.7	Fault-finding and troubleshooting techniques are applied when constructing pipeline easements in accordance with job requirements and workplace procedures
	2.8	Quality and safety checks of the work are conducted in accordance with job instructions and workplace procedures
3 Complete work and relevant documentation	3.1	Pipeline easement work undertaken is checked against work schedule for conformance with job requirements and anomalies reported to authorised person/s in accordance with workplace procedures
	3.2	Accidents and incidents are actioned and reported to authorised person/s in accordance with workplace procedures

- 3.3 Work site is rehabilitated, cleaned up and made safe in accordance with job instructions and workplace procedures
- 3.4 Tools, equipment, plant and any surplus resources and materials are cleaned, checked and returned to storage in accordance with workplace procedures
- 3.5 Appropriate person/s are notified of work completion in accordance with workplace procedures
- 3.6 Work completion records, report forms, documentation and data sheets are completed 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 Volume Implementation Guide.

Unit Mapping Information

This unit replaces and is equivalent to UEGNSG325 Coordinate the operation of relevant plant and equipment for transmission pipeline construction.

Links

Companion Volume Implementation Guides are found in VETNet -
<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=6a6c032e-ffcb-4f3d-8063-415efbd261e8>

Assessment Requirements for UEGNSG307 Coordinate the operation of relevant plant and equipment for transmission pipeline construction

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 and performance criteria on at least two separate occasions and include:

- applying relevant work health and safety (WHS)/occupational health and safety (OHS) requirements, including:
 - correctly selecting and using personal protective equipment (PPE)
 - hazard identification and reporting
 - implementing risk control measures
- communicating with relevant stakeholders
- completing work and relevant documentation, reports, data sheets and records
- complying with permits pertaining to transmission pipeline construction operations
- complying with regulations, industry standards, legislative requirements, codes of practice, manufacturers' recommendations and specifications, and environmental requirements
- complying with relevant cultural and heritage requirements
- coordinating the operation of relevant plant and equipment for transmission pipeline construction
- dealing with and reacting to a variety of contingencies, including rain and transport of plant and equipment
- dealing with unplanned events/situations in accordance with workplace procedures in a manner that minimises risk to personnel and equipment
- following workplace policies and procedures
- inspecting and constructing easements
- isolating work area
- monitoring the effective use of plant and equipment
- obtaining and interpreting relevant plans, drawings and diagrams
- organising equipment according to the needs of the project incorporating environmental/geological constraints
- preparing for transmission pipeline construction
- rehabilitating work site.

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:

- capability and capacity of gas industry transmission pipeline construction plant and equipment across variable terrain and environment
- cultural and heritage requirements
- dealing with contingencies
- easement construction
- effective communication on a gas transmission pipeline construction site (between operators and ground crew)
- fault-finding and troubleshooting techniques
- hazardous activities, including lifting, climbing, working in confined spaces, excavations, trenches and aloft, and use of power tools
- on-site pipeline construction communication strategies and techniques
- operation of transmission pipeline construction plant and equipment
- plant and equipment required for transmission pipeline construction
- quality and safety checks
- regulations, industry standards, legislative requirements, codes of practice, manufacturers' recommendations and specifications, and environmental requirements
- relevant workplace documentation
- relevant workplace policies and procedures
- transmission pipeline construction
- relevant WHS/OHS legislated requirements, including:
 - emergency and incident response
 - hazard identification
 - hazards, risk assessment and control measures
 - manual handling
 - PPE
 - safety data sheets (SDS)
 - work permits and job hazard analysis (JHA), job safety analysis (JSA), job safety and environment analysis (JSEA) and SWMS

Assessment Conditions

Assessors must hold credentials specified within the Standards for Registered Training Organisations current at the time of assessment.

Assessment must satisfy the Principles of Assessment and Rules of Evidence and all regulatory requirements included within the Standards for Registered Training Organisations current at the time of assessment.

Assessment must occur in workplace operational situations where it is appropriate to do so; where this is not appropriate, assessment must occur in simulated workplace operational

situations that replicate workplace conditions.

Assessment processes and techniques must be appropriate to the language, literacy and numeracy requirements of the work being performed and the needs of the candidate.

Resources for assessment must include access to:

- a range of relevant exercises, case studies and/or 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>

UEGNSG309 Coordinate transmission pipeline construction operations

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 coordinate gas transmission pipeline construction operations.

It includes planning, coordinating and completing gas transmission pipeline construction operations.

The application of the skills and knowledge described in this unit may require a licence/registration to practise in the workplace.

Other conditions may apply under state and territory legislative and regulatory licensing requirements which must be confirmed prior to commencing this unit.

Pre-requisite Unit

Not applicable.

Competency Field

Gas Transmission

Unit Sector

Gas Industry

Elements and Performance Criteria

ELEMENTS

Elements describe the essential outcomes.

1 Plan for gas transmission pipeline construction

PERFORMANCE CRITERIA

Performance criteria describe the performance needed to demonstrate achievement of the element.

1.1 Work instructions are obtained and confirmed with relevant personnel

activities

- 1.2 Work health and safety (WHS)/occupational health and safety (OHS), environmental and sustainable energy workplace policies and procedures are followed for gas transmission pipeline work to be performed
 - 1.3 Hazards are identified, WHS/OHS risks assessed and control measures are prioritised, implemented and monitored, including emergency exits kept clear in accordance with workplace procedures
 - 1.4 Alignment sheets are used to determine construction operations, and work schedule is checked for quality outcome and to minimise risk and damage to property, commerce and stakeholders in accordance with workplace procedures
 - 1.5 Work site is inspected and assessed using appropriate resources to determine requirements in accordance with workplace procedures and relevant requirements
 - 1.6 Job safety analysis (JSA)/safe work method statement (SWMS) briefing is undertaken to determine the tasks, and associated hazards, risks and controls with all relevant persons to confirm work schedule
 - 1.7 Scope of responsibility in accordance with relevant work permit is determined and confirmed in accordance with workplace procedures and relevant person/s
 - 1.8 Resources, relevant procedures, traffic management plan, competent personnel, plant, equipment, tools and personal protective equipment (PPE) required for the job are obtained and in working order in accordance with workplace procedures
 - 1.9 Responsibilities for first aid and other emergency incidents at the work site are checked and confirmed in accordance with job requirements and workplace emergency response procedures
 - 1.10 Client issues are referred to relevant person/s in accordance with relevant industry and community standard/s
- 2 **Coordinate gas pipeline operations**
 - 2.1 WHS/OHS workplace policies, procedures and SWMS are followed to eliminate or minimise workplace incidents and hazards

- 2.2 Lifting, climbing, working aloft, and use of tools and equipment, techniques and practices are safely followed in accordance with workplace procedures and JSA/SWMS
 - 2.3 Work area is made safe and gas pipeline construction activities are coordinated in accordance with instructions and workplace procedures
 - 2.4 Gas pipeline construction activities are carried out to agreed timeframe, relevant industry quality standards and with a minimum of waste in accordance with job requirements and workplace procedures
 - 2.5 Operational hazards and safety risks are reported to the relevant person/s for directions in accordance with workplace procedures
 - 2.6 Unplanned events are referred to relevant person/s for directions in accordance with workplace procedures
 - 2.7 Corrective action associated with unplanned pipeline construction operations is dealt with in accordance with work instructions and workplace procedures in a manner that minimises risk to personnel and equipment
 - 2.8 Ongoing checks and data collection relating to the quality of the work are undertaken in accordance with instructions and workplace procedures
- 3 Complete gas transmission pipeline construction operations**
- 3.1 Gas pipeline construction operations are monitored to ensure integrity of the pipe and the coating is maintained
 - 3.2 Compliance with work schedule is maintained and anomalies are reported to relevant person/s in accordance with workplace procedures
 - 3.3 Accidents and incidents are actioned and reported to relevant person/s in accordance with workplace procedures
 - 3.4 Tools, equipment and any surplus resources and waste materials are coordinated for removal, cleaning, checking and returning 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 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 Volume Implementation Guide.

gas pipeline operations must include the following:

- backfill
- clear and grade
- ditching
- hydro testing
- joint coating
- lower and lay
- mechanical (minor maintenance)
- string and bend
- welding

Unit Mapping Information

This unit replaces and is equivalent to UEGNSG327 Coordinate transmission pipeline construction operations.

Links

Companion Volume Implementation Guides are found in VETNet -
<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=6a6c032e-ffcb-4f3d-8063-415efbd261e8>

Assessment Requirements for UEGNSG309 Coordinate transmission pipeline construction operations

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 relevant work health and safety (WHS)/occupational health and safety (OHS) requirements, including:
 - ensuring emergency response procedures are in place
 - hazard identification and reporting
 - implementing risk control measures
 - working safely with hazardous materials and equipment
- completing gas transmission pipeline construction operations
- complying with regulations, industry standards, legislative requirements, codes of practice, manufacturers' recommendations and specifications, and environmental requirements
- coordinating gas transmission pipeline construction operations, including:
 - backfill:
 - ensuring that bedding material meets specified requirements
 - ensuring the soil compaction meets specified requirements
 - correct placement of marker tape
 - clear and grade:
 - managing survey marker placement procedures
 - ensuring environmental and cultural compliance
 - ditching:
 - ensuring compliance with regulations and industry standards related to excavation
 - selecting and ensuring correct operation of required plant, tools and equipment for various ground conditions
 - hydro testing:
 - ensuring the suitability and/or availability of water source for testing and practicable disposal
 - ensuring effective safety controls are in place, particularly at public access points
 - industry standards requirements
 - ensuring relevant WHS/OHS procedures are applied, particularly in relation to

- working out of normal hours
- joint coating:
 - ensuring applicators follow manufacturer guidelines
 - ensuring effective joint coating testing techniques are applied
- lower and lay:
 - ensuring crew correctly places pipe string
 - ensuring pipe coating integrity is maintained
 - communicating effectively to coordinate multi-point lift of the pipe string
 - effectively coordinating with as built survey
- mechanical (minor maintenance):
 - ensuring that pipeline construction plant, equipment and tools are effectively maintained to meet construction schedule
- welding:
 - ensuring welding joints are performed in accordance with welding procedures
 - ensuring welding plant, equipment and tools are suitable to produce welded joints that meet specified requirements
 - ensuring relevant WHS/OHS procedures are applied, particularly in relation to working with potentially dangerous tools and equipment in a high temperature environment
- dealing with unplanned events
- planning for gas transmission pipeline construction activities.

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:

- communicate effectively in the gas industry
- gas transmission pipeline construction operations including backfill, clear and grade, ditching, hydro testing, joint coating, lower and lay, mechanical minor maintenance and welding
- methods of protecting the pipeline from third party interaction, including use of marker tape, bedding materials and marker post signage
- on-site pipeline construction communication strategies, including:
 - hand signals
 - satellite phones
 - radios
- operation of portable high-pressure equipment
- pipeline protective systems, including bedding and padding materials
- problem solving, decision making and conflict resolution techniques
- regulations, industry standards, legislative requirements, codes of practice, manufacturers' recommendations and specifications, and environmental requirements

- relevant industry standards including gas pipeline operations standards
- relevant safe work method statements (SWMS)/job safety assessments or risk mitigation processes, including:
 - basic first aid
 - confined spaces awareness
 - emergency response
 - high risk plant and equipment licenses and tickets
 - how to apply control measures
 - manual handling
 - risk assessment forms, such as work permits and job hazard analysis (JHA), job safety analysis (JSA), job safety and environment analysis (JSEA), SWMS
 - hazard identification
 - safety data sheets (SDS)
 - signage
 - working at heights
- relevant WHS/OHS and environmental legislated requirements
- relevant workplace documentation
- relevant workplace policies and procedures, including:
 - exclusion zone awareness
 - high pressure equipment hoses and whip checks
 - safe operation
 - specific signage requirements for using high pressure equipment
- right of way set out and ditch line
- string and bend:
 - capabilities of stringing plant, equipment and tools
 - limitations of the vacuum lift and consequences of incidents
 - appropriate motor vehicle license and skills training for row driving
 - accurate calculations for determining sequence of delivery of pipes
 - bending procedures
 - capabilities of bending plant, equipment and tools
 - consequence of shifting centres of gravity
 - trigonometric calculations for bending procedures
- translation of survey techniques into the right of way environment, including survey markers and off-set markers, their meaning and relevant work applications.

Assessment Conditions

Assessors must hold credentials specified within the Standards for Registered Training Organisations current at the time of assessment.

Assessment must satisfy the Principles of Assessment and Rules of Evidence and all regulatory requirements included within the Standards for Registered Training Organisations current at the

time of assessment.

Assessment must occur in workplace operational situations where it is appropriate to do so; where this is not appropriate, assessment must occur in simulated workplace operational situations that replicate workplace conditions.

Assessment processes and techniques must be appropriate to the language, literacy and numeracy requirements of the work being performed and the needs of the candidate.

Resources for assessment must include access to:

- a range of relevant exercises, case studies and/or other simulations
- relevant and appropriate materials, tools, equipment and personal protective equipment (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>

UEGNSG312 Inject gas into underground storage

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 inject gas into underground storage in accordance with relevant regulations, codes of practice and workplace procedures.

It includes following procedures to correctly inject gas at the required flow rates, temperatures and pressures to protect above ground equipment and reservoir storage.

This unit of competency can be applicable to those working in the field or a control room environment.

The application of the skills and knowledge described in this unit may require a licence/registration to practise in the workplace.

Other conditions may apply under state and territory legislative and regulatory licensing requirements which must be confirmed prior to commencing this unit.

Pre-requisite Unit

Not applicable

Competency Field

Transmission

Unit Sector

Gas Industry

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 inject gas into	1.1	Job requirements and workplace procedures for injection

underground storage	are obtained and discussed with relevant person/s
1.2	Work health and safety (WHS)/occupational health and safety (OHS), environmental and sustainable energy policies and procedures for injection are obtained
1.3	Hazards and WHS/OHS risks are identified and eliminated or control measures implemented and monitored
1.4	Equipment, tools and personal protective equipment (PPE) required for injection are obtained and checked for correct operation and used in accordance with workplace procedures
1.5	Work site is prepared to minimise risk and damage to above and below ground equipment and individuals in accordance with work instructions, work schedule and workplace procedures
1.6	Pre-start checks of injection equipment, pipelines and wellheads are undertaken in accordance with regulatory requirements and workplace procedures
1.7	Isolating and/or deisolating equipment, where applicable, is undertaken according to workplace procedures
2 Inject gas into underground storage	
2.1	WHS/OHS risk control measures and policies and procedures are followed
2.2	Hazardous activities performed safely in accordance with work instructions, regulatory requirements and workplace procedures.
2.3	Wells and above ground equipment are started up and monitored in accordance with plant operating specifications and parameters
2.4	Gas is injected into the underground storage correctly and safely according to flow rate, pressure and temperature requirements and in accordance with workplace procedures
2.5	Potential hazards and safety risks are identified and reported to authorised person/s for directions in accordance with workplace procedures
2.6	Unplanned events are dealt with or referred to authorised person/s for directions in accordance with level of

	responsibility and workplace procedures
	2.7 Quality and safety checks of the work are conducted in accordance with job requirements, industry standards and workplace procedures
	2.8 Emergency shutdowns are responded to in accordance with workplace procedures
3 Complete work and relevant documentation	3.1 Equipment shutdown is performed in a controlled manner and in accordance with workplace procedures
	3.2 Isolating and/or deisolating equipment, where applicable, is undertaken according to workplace procedures
	3.3 Work area 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 and report forms are completed 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 Volume Implementation Guide.

Unit Mapping Information

This is a new unit.

Links

Companion Volume Implementation Guides are found in VETNet -
<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=6a6c032e-ffcb-4f3d-8063-415efbd261e8>

Assessment Requirements for UEGNSG312 Inject gas into underground storage

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 and performance criteria on at least two separate occasions and include:

- applying relevant work health and safety (WHS)/occupational health and safety (OHS) and environmental requirements and codes of practice, including:
 - emergency procedures and response actions
 - hazard identification and reporting
 - implementing risk control measures
 - selecting and using correct personal protective equipment (PPE)
- communicating with relevant person/s
- completing work and relevant documentation
- conducting quality and safety checks
- dealing with unplanned events/situations in accordance with workplace procedures in a manner that minimises risk to personnel and equipment
- following workplace procedures, including:
 - controlled and emergency shutdown procedures
 - gas compression procedures
 - gas injection procedures
 - gas pressurisation and balancing flow procedures
 - gas temperature controlling procedures
 - plant inlet procedures
- isolating/deisolating equipment
- injecting gas into the underground storage correctly and safely according to flow rate, pressure and temperature requirements and in accordance with workplace procedures and industry standards
- obtaining and using relevant equipment and tools, including:
 - compressor systems
 - fittings
 - gas cooling exchanges
 - gas sampling equipment

- hand tools
- leak detection
- testing equipment.

Knowledge Evidence

Evidence required to demonstrate competence in this unit must be relevant to and satisfy all of the requirements of the elements and performance criteria and include knowledge of:

- above and down hole well configuration, including:
 - Christmas tree or well head
 - formation characteristics
 - intermediate casing
 - production casing
 - production tubing
 - underground storage characteristics
 - well surface casing
- chemicals in the workplace, including:
 - gas chemicals used for gas treatment
 - hazardous substances and dangerous goods
- gas characteristics and hazards
- gas industry drawings, plans and material lists
- organisational health safety and environmental requirements
- plant and equipment in an underground storage facility environment, including:
 - dehydrators
 - fittings
 - gas sampling equipment
 - hand tools
 - heat exchangers
 - leak detection equipment
 - prime movers
 - separators
- plant operating specifications and parameters, including:
 - equipment minimum and maximum pressures
 - minimum and maximum storage volumes
 - reservoir minimum and maximum pressures
 - temperatures
 - injection rates
- preservation of underground storage
- quality and safety checks
- regulations, legislative requirements and codes of practice

- relevant permit to work systems
- workplace procedures, including:
 - gas pressurisation procedures
 - controlled and emergency shutdown procedures
 - gas compression procedures
 - gas flow control procedures
 - gas pressure control procedures
 - gas temperature controlling procedures
 - plant inlet procedures
- relevant manufacturer specifications
- relevant safe work method statements (SWMS)/job safety assessments or risk mitigation processes
- relevant stakeholders, including:
 - authorised persons
 - authorities
 - emergency personnel
 - permit holders
- relevant WHS/OHS legislated requirements, including:
 - applicable emergency procedures
 - environmental and sustainable energy principles and practices
 - hazards, risk assessment and control measures
- relevant workplace documentation
- relevant workplace policies
- transmission pipeline operating parameters and requirements.

Assessment Conditions

Assessors must hold credentials specified within the Standards for Registered Training Organisations current at the time of assessment.

Assessment must satisfy the Principles of Assessment and Rules of Evidence and all regulatory requirements included within the Standards for Registered Training Organisations current at the time of assessment.

Assessment must occur in 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 personal protective equipment (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>

UEGNSG313 Monitor and operate flow control, pressure measuring and regulating devices for gas transmission

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 monitor and operate complex gas flow control, pressure measuring and regulating devices to control gas supply in gas transmission systems in accordance with relevant legislation, codes of practice, regulations and workplace procedures.

It includes monitoring complex gas flow control devices and equipment by inspecting, testing and controlling flow and pressure measuring device. It also includes recording and reporting regulation of the gas transmission system, equipment, organisational and statutory requirements.

The application of the skills and knowledge described in this unit may require a licence/registration to practise in the workplace.

Other conditions may apply under state and territory legislative and regulatory licensing requirements which must be confirmed prior to commencing this unit.

Pre-requisite Unit

UEGNSG006 Use a portable gas detector to locate escape

Competency Field

Transmission Discipline

Unit Sector

Gas Industry

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 monitor complex gas flow control device and equipment

- 1.1** Work requirements for monitoring and operating complex gas flow control, pressure measuring and regulating device/s are interpreted from plan/s, specifications and instructions
- 1.2** Relevant gas supply monitoring requirements and workplace procedures for work are communicated to relevant person/s
- 1.3** Work health and safety (WHS)/occupational health and safety (OHS), environmental and sustainable energy workplace policies and procedures related to gas supply monitoring and operating of complex flow controls are obtained and confirmed
- 1.4** Work activities are prioritised and sequenced following consultation with relevant person/s for completion within acceptable timeframes and in accordance with workplace procedures
- 1.5** WHS/OHS and environmental risk control measures for identified hazards are prioritised, implemented and monitored
- 1.6** Relevant work permits are obtained to access, isolate/de-energise systems and perform work in accordance with job requirements and workplace procedures
- 1.7** Resources, appropriately licensed person/s, equipment, tools and personal protective equipment (PPE) required for the work are identified, scheduled and obtained in safe working order
- 1.8** Liaison and communication with authorised person/s, authorities, clients and land owners are undertaken to resolve gas supply issues and work activities monitored in accordance with workplace procedures
- 1.9** Person/s participating in work activities are fully briefed and respective responsibilities confirmed, as required, in accordance with workplace procedures
- 1.10** Third-party issues are referred to appropriate person/s in accordance with workplace procedures
- 1.11** Site preparation, safety plan and work schedule are confirmed in accordance with workplace procedures

2 Monitor complex gas flow control device and equipment system performance	2.1 WHS/OHS and environmental workplace policies, procedures and safe work practices are followed to eliminate or minimise risk of harm from incidents and hazards 2.2 Information on gas supply device and equipment performance is collected and reported in accordance with organisational requirements 2.3 Dealings with customers are consistent with workplace procedures and specific needs of customer/s are identified and considered in targeting client service 2.4 Routine inspections of system are scheduled and monitored in accordance with the work schedule and workplace procedures 2.5 Hazard warnings and safety signs are recognised and hazards are identified, assessed and WHS/OHS risks are reported to the authorised person/s for directions in accordance with workplace procedures 2.6 System performance data and usage is collected, analysed and reported with any unplanned events from monitoring operation of complex gas flow control in accordance with workplace procedures 2.7 Samples are taken in accordance with workplace procedures and known solutions to a variety of problems are applied 2.8 Ongoing checks of quality of work are undertaken in accordance with given instructions and workplace procedures
3 Control and adjust gas flow and complete records and reports	3.1 Gas flow and overflow regulating systems are inspected and adjusted to meet demand and customer requirements 3.2 Incidents and injuries are reported in accordance with workplace procedures, as required 3.3 Gas flow and diversion/s are determined to facilitate repair or emergency activities in accordance with organisational requirements 3.4 Process faults and operational conditions of the gas transmission system are identified, addressed and reported in accordance with organisational requirements

- 3.5 Work site is cleaned up and confirmed safe in accordance with workplace procedures
- 3.6 Tools, equipment and any surplus resources and materials are cleaned, checked and returned to storage in accordance with workplace procedures
- 3.7 Relevant work permit/s are signed off in accordance with job requirements
- 3.8 Work completion records, reports and documentation are finalised and processed and appropriate person/s notified

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 Companion Volume Implementation Guide.

Unit Mapping Information

This unit replaces and is equivalent to UEGNSG356 Monitor and operate flow control, pressure measuring and regulating devices for gas transmission.

Links

Companion Volume Implementation Guides are found in VETNet -
<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=6a6c032e-ffcb-4f3d-8063-415efbd261e8>

Assessment Requirements for UEGNSG313 Monitor and operate flow control, pressure measuring and regulating devices for gas transmission

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 and performance criteria on at least two separate occasions and include:

- applying relevant work health and safety (WHS)/occupational health and safety (OHS) requirements, including:
 - workplace procedures and practices
 - using risk control measures
- applying sustainable energy principles and practices
- completing records and reports
- controlling and adjusting gas supply flow
- dealing effectively with unplanned events in accordance with workplace procedures in a manner that minimises risk to personnel and equipment
- monitoring and operating of complex gas flow control, measuring and regulating devices for gas pressure and flow control in gas transmission systems in accordance with relevant legislation, code of practice, regulations and workplace procedures
- monitoring gas supply system performance.

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:

- differences in pipeline pressures, including high/low flow pressures
- gas conditioning and monitoring equipment, including principles of operation, fault finding, adjustments, replacement and minor repairs
- gas facilities/station venting, purging and pressurisation operations
- gas flow measurement equipment types
- gas pressure control equipment, including principles of operation
- gas transmission pipeline flow control, pressure, measuring and regulating devices
- gas transmission systems relevant legislation, codes of practice and regulations
- monitoring and operating complex flow control, measuring and regulating devices on gas

transmission systems

- principles of control systems used in monitoring and control of applicable organisational gas infrastructure
- relevant manufacturer specifications, manuals and procedures
- relevant safe work method statements (SWMS)/job safety assessments or risk mitigation processes including safe working practices
- relevant WHS/OHS legislated requirements
- relevant workplace documentation, records and reports
- relevant workplace policies and procedures.

Assessment Conditions

Assessors must hold credentials specified within the Standards for Registered Training Organisations current at the time of assessment.

Assessment must satisfy the Principles of Assessment and Rules of Evidence and all regulatory requirements included within the Standards for Registered Training Organisations current at the time of assessment.

Assessment must occur in workplace operational situations where it is appropriate to do so; where this is not appropriate, assessment must occur in simulated workplace operational situations that replicate workplace conditions.

Assessment processes and techniques must be appropriate to the language, literacy and numeracy requirements of the work being performed and the needs of the candidate.

Resources for assessment must include access to:

- a range of relevant exercises, case studies and/or other simulations
- relevant and appropriate materials, tools, facilities equipment and personal protective equipment (PPE) currently used in industry
- resources used should reflect current industry practices and technologies in relation to operating flow control, pressure measuring and regulating devices for gas transmission
- 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>

UEGNSG315 Withdraw gas from underground storage

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 withdraw gas from underground storage in accordance with relevant regulations, codes of practice and workplace procedures.

It includes following procedures to correctly withdraw gas at the required flow rates, temperatures and pressures to protect above ground equipment and reservoir storage.

This unit of competency can be applicable to those working in the field as or a control room environment.

The application of the skills and knowledge described in this unit may require a licence/registration to practise in the workplace.

Other conditions may apply under state and territory legislative and regulatory licensing requirements which must be confirmed prior to commencing this unit.

Pre-requisite Unit

Not applicable.

Competency Field

Transmission

Unit Sector

Gas Industry

Elements and Performance Criteria

ELEMENTS

Elements describe the essential outcomes.

1 Prepare to withdraw gas

PERFORMANCE CRITERIA

Performance criteria describe the performance needed to demonstrate achievement of the element.

1.1 Job requirements and workplace procedures for withdrawal are obtained and discussed with relevant

from underground storage	person/s
	1.2 Work health and safety (WHS)/occupational health and safety (OHS), environmental and sustainable energy workplace policies and procedures for withdrawal are obtained
	1.3 Hazards and WHS/OHS risks are identified and eliminated or control measures implemented and monitored
	1.4 Equipment, tools and personal protective equipment (PPE) required for withdrawal are obtained and checked for correct operation and used in accordance with workplace procedures
	1.5 Work site is prepared to minimise risk and damage to above and below ground, equipment and individuals in accordance with work instructions, work schedule and workplace procedures
	1.6 Pre-start checks of withdrawal equipment, pipelines and well heads are undertaken in accordance with regulatory requirements and workplace procedures
	1.7 Isolating and/or deisolating equipment, where applicable, is undertaken according to workplace procedures
2 Withdraw gas from underground storage	2.1 WHS/OHS risk control measures and policies and procedures are followed
	2.2 Hazardous activities are performed safely in accordance with job instructions, regulatory requirements and workplace procedures
	2.3 Wells and equipment performance are monitored for start-up in accordance with plant operating specifications and parameters
	2.4 Gas is withdrawn from underground storage correctly and safely according to flow rate, pressure and temperature requirements and liquid levels produced from the wells
	2.5 Potential hazards and safety risks are identified and reported to authorised person/s for direction in accordance with workplace procedures

- 2.6 Unplanned events are dealt with or referred to authorised person/s for directions in accordance with level of responsibility and workplace procedures
 - 2.7 Quality and safety checks of the work are conducted in accordance with job requirements, industry standards and workplace procedures
 - 2.8 Emergency shutdowns are responded to in accordance with workplace procedures
- 3 Complete work and relevant documentation**
 - 3.1 Equipment shutdown is performed in a controlled manner and in accordance with workplace procedures
 - 3.2 Isolating and/or deisolating equipment, where applicable, is undertaken according to workplace procedures
 - 3.3 Work area 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 and report forms are completed 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 Volume Implementation Guide.

Unit Mapping Information

This is a new unit.

Links

Companion Volume Implementation Guides are found in VETNet -
<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=6a6c032e-ffcb-4f3d-8063-415efbd261e8>

Assessment Requirements for UEGNSG315 Withdraw gas from underground storage

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 and performance criteria on at least two separate occasions and include:

- applying relevant work health and safety (WHS)/occupational health and safety (OHS) and environmental requirements and codes of practice, including:
 - emergency procedures and response actions
 - hazard identification and reporting
 - implementing risk control measures
 - selecting and using correct personal protective equipment (PPE)
- communicating with relevant person/s
- completing work and relevant documentation
- conducting quality and safety checks
- dealing with unplanned events/situations in accordance with workplace procedures in a manner that minimises risk to personnel and equipment
- following relevant workplace procedures, including:
 - controlled and emergency shutdown procedures
 - gas compression procedures
 - gas pressurisation and balancing flow procedures
 - gas temperature controlling procedures
 - gas withdrawal procedures
 - plant outlet procedures
- isolating/deisolating equipment
- obtaining and using relevant equipment and tools, including:
 - compressor systems
 - fittings
 - gas cooling exchanges
 - gas sampling equipment
 - hand tools
 - leak detection
- withdrawing gas from underground storage correctly and safely according to flow rate,

pressure and temperature requirements and liquid levels produced from the wells.

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:

- above and down hole well configuration, including:
 - Christmas tree or well head
 - formation characteristics
 - intermediate casing
 - production casing
 - production tubing
 - underground storage characteristics
 - well surface casing
- chemicals in the workplace, including:
 - gas chemicals used for gas treatment
 - hazardous substances and dangerous goods
- gas characteristics and hazards
- gas industry drawings, plans and material lists
- plant and equipment in an underground storage facility environment, including:
 - compressor systems
 - fittings
 - gas cooling equipment
 - gas sampling equipment
 - hand tools
 - leak detection equipment
- plant operating specifications and parameters, including:
 - equipment minimum and maximum pressures
 - minimum and maximum storage volumes
 - reservoir minimum and maximum pressures
 - temperatures
 - withdrawal rates
- preservation of underground storage
- regulations, legislative requirements and codes of practice
- relevant permit to work systems
- relevant workplace procedures, including
 - gas pressurisation procedures
 - controlled and emergency shutdown procedures
 - gas compression procedures
 - gas flow control procedures

- gas pressure control procedures
- gas temperature controlling procedures
- plant outlet procedures
- relevant manufacturer specifications
- relevant safe work method statements (SWMS)/job safety assessments or risk mitigation processes
- relevant stakeholders, including:
 - authorised persons
 - authorities
 - emergency personnel
 - permit holders
- relevant WHS/OHS legislated requirements, including:
 - applicable emergency equipment and procedures
 - environmental and sustainable energy principles and practices
 - hazards, risk assessment and control measures
- relevant workplace documentation
- relevant workplace policies and procedures
- transmission pipeline operating parameters and requirements.

Assessment Conditions

Assessors must hold credentials specified within the Standards for Registered Training Organisations current at the time of assessment.

Assessment must satisfy the Principles of Assessment and Rules of Evidence and all regulatory requirements included within the Standards for Registered Training Organisations current at the time of assessment.

Assessment must occur in 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 personal protective equipment (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>

UEGNSG316 Work in proximity of transmission pipeline construction plant and equipment

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 work in proximity of gas transmission construction plant and equipment, and complete work and documentation in accordance with relevant legislations, codes of practice, regulations, industry standards and workplace procedures.

It includes the operating parameters and safety issues of a range of specific plant and equipment dedicated to the construction of transmission pipelines at a construction work site.

The application of the skills and knowledge described in this unit may require a licence/registration to practise in the workplace.

Other conditions may apply under state and territory legislative and regulatory licensing requirements which must be confirmed prior to commencing this unit.

Pre-requisite Unit

Not applicable.

Competency Field

Transmission

Unit Sector

Gas Industry

Elements and Performance Criteria

ELEMENTS

Elements describe the essential outcomes.

1 Prepare to work in proximity of plant and

PERFORMANCE CRITERIA

Performance criteria describe the performance needed to demonstrate achievement of the element.

1.1 Work health and safety (WHS)/occupational health and safety (OHS) workplace procedures and environmental

equipment for transmission pipeline construction	measures for the site are identified, obtained and applied
	1.2 Job requirements and workplace procedures for the site are obtained and discussed with relevant person/s to confirm the work schedule
	1.3 WHS/OHS, environmental and sustainable energy policies and procedures are obtained and applied in accordance with workplace procedures
	1.4 Easement is inspected and assessed to determine relevant requirements in accordance with workplace procedures
	1.5 Hazards are identified, WHS/OHS risks are assessed and control measures prioritised, implemented and monitored in accordance with workplace procedures
	1.6 Scope of responsibility under the relevant work permit and/or relevant notification is obtained and confirmed with relevant person/s in accordance with job requirements and workplace procedures
	1.7 Equipment, plant, tools and personal protective equipment (PPE) required for the work are identified, scheduled, obtained and checked for operation and safety in accordance with workplace procedures and manufacturer instructions
	1.8 Relevant person/s are consulted to ensure the work is coordinated effectively with others involved
	1.9 Materials, plans, diagrams, drawings and resources required for the work are confirmed, scheduled and obtained in accordance with workplace procedures
	1.10 Responsibilities for first aid, emergencies and work safety procedures for an incident at the worksite are checked and confirmed with relevant person/s
	1.11 Third-party issues are referred to relevant person/s in accordance with workplace procedures
	1.12 Site preparation, safety plan and work schedule are confirmed with relevant person/s in accordance with workplace procedures
2 Work in proximity of plant and equipment for	2.1 WHS/OHS risk control measures, schedule of work and workplace procedures for carrying out the work are

transmission pipeline construction	followed
	2.2 Materials, tools, equipment and measuring devices required for the work are selected and used correctly and safely in accordance with manufacturer instructions and workplace procedures
	2.3 Hazardous activities are conducted safely in accordance with WHS/OHS workplace procedures and job instructions
	2.4 Work is carried out to the required standard, without waste of materials or damage to apparatus, circuits, and the surrounding environment or services using sustainable energy principles
	2.5 WHS/OHS risks and incidents are reported to authorised person/s for directions in accordance with workplace procedures
	2.6 Unplanned events are referred to the authorised person/s for directions in accordance with workplace procedures
	2.7 Remedial action required when constructing pipeline easements is dealt with in accordance with workplace procedures
	2.8 Quality and safety checks are carried out in accordance with work instructions and workplace procedures
3 Complete work and relevant documentation	3.1 WHS/OHS risk control measures for work completion are followed
	3.2 Work site is tidied and made safe in accordance with workplace procedures
	3.3 Tools, equipment and any surplus resources and materials are cleaned, checked and securely stored in accordance with workplace procedures
	3.4 Relevant person/s are notified of work completion in accordance with workplace procedures
	3.5 Work completion documentation is completed accurately and provided to relevant person/s in accordance with workplace procedures

Foundation Skills

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

Range of Conditions

Range is restricted to essential operating conditions and any other variables essential to the work environment.

Non-essential conditions may be found in the UEG Gas Industry Training Package Companion Volume Implementation Guide.

Unit Mapping Information

This unit replaces and is equivalent to UEGNSG333 Work in proximity of transmission pipeline construction plant and equipment.

Links

Companion Volume Implementation Guides are found in VETNet -
<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=6a6c032e-ffcb-4f3d-8063-415efbd261e8>

Assessment Requirements for UEGNSG316 Work in proximity of transmission pipeline construction plant and equipment

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 relevant work health and safety (WHS)/occupational health and safety (OHS) requirements, including:
 - ensuring emergency response procedures are in place
 - identifying and reporting hazards
 - implementing risk control measures
 - working safely with hazardous materials and equipment
 - undertaking hazardous activities in a safe manner
-
- applying sustainable energy and environmental principles and practices, including minimising waste
- completing required documentation and reporting
- complying with regulations, industry standards, legislative requirements, codes of practice, manufacturers' recommendations and specifications, and environmental requirements
- dealing with unplanned events/situations in accordance with workplace procedures in a manner that minimises risk to personnel and equipment
- following workplace policies and procedures
- identifying and checking tools, equipment, plant and personal protective equipment (PPE) for correct operating parameters and safety
- inspecting and assessing easement
- maintaining a clean and safe work site
- obtaining and interpreting relevant plans, drawings, diagrams and schedules
- obtaining job requirements, work instructions, safety plans and work schedules
- obtaining relevant resources and materials to conduct the work
- performing quality and safety checks
- preparing to work in proximity of plant and equipment for transmission pipeline construction plant and equipment, including two of the following activities:
 - earth-moving
 - hydro-testing

- joint coating
- lowering and laying.

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:

- easements relevant to transmission pipeline construction
- effective communication techniques
- environmental and sustainable energy principles and practices, including techniques to minimise waste
- first aid, emergency and safety procedures for incidents
- hazards and hazardous activities in the workplace
- licensing requirements for construction plant and equipment
- plant, tools and equipment types, purpose and basic operation, including the following:
 - earth-moving
 - hydro-testing
 - joint coating
 - lowering and laying
- quality and safety check procedures
- regulations, industry standards, legislative requirements, codes of practice, manufacturers' recommendations and specifications, and environmental requirements
- relevant construction plant and equipment manufacturer instructions
- relevant industry and technical standards
- relevant materials, plans, diagrams, drawings and resources
- relevant remedial actions for constructing pipeline easements
- relevant safe work method statements (SWMS)/job safety assessments or risk mitigation processes and includes personal protective equipment
- relevant WHS/OHS legislated requirements
- relevant work permits and/or notifications
- relevant workplace documentation
- relevant workplace policies and procedures
- safe operating parameters
- site preparation, safety plans, job requirements and work schedules.

Assessment Conditions

Assessors must hold credentials specified within the Standards for Registered Training Organisations current at the time of assessment.

Assessment must satisfy the Principles of Assessment and Rules of Evidence and all regulatory requirements included within the Standards for Registered Training Organisations current at the

time of assessment.

Assessment must occur in workplace operational situations where it is appropriate to do so; where this is not appropriate, assessment must occur in simulated workplace operational situations that replicate workplace conditions.

Assessment processes and techniques must be appropriate to the language, literacy and numeracy requirements of the work being performed and the needs of the candidate.

Resources for assessment must include access to:

- a range of relevant exercises, case studies and/or 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>

UEGNSG317 First response to a gas facility event

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 manage the first response to an unplanned gas facility event, assess the situation and take appropriate action, as required, in accordance with relevant legislation, codes of practice, regulations, standards and workplace procedures.

It includes managing the site response with the following priorities: protect human life, reduce trauma, maintain system safety, ensure system supply, protect the environment and protect property.

Facilities could include metering, compressors, valves, regulators, heaters, scraper, telemetry and odourisation.

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

Pre-requisite Unit

CPPFES2005 Demonstrate first attack firefighting equipment

HLTAID011 Provide First Aid

UEGNSG141 Apply workplace health and safety regulations, codes and practices in the gas supply industry

Competency Field

Gas Transmission

Unit Sector

Gas Industry

Elements and Performance Criteria

ELEMENTS

PERFORMANCE CRITERIA

Elements describe the essential Performance criteria describe the performance needed to

outcomes.

demonstrate achievement of the element.

1 Plan for first response to a gas facility event

- 1.1** Details of incident/threat to pipeline facility are confirmed with supervisor, control centre or radio room in accordance with workplace procedures
- 1.2** Specific requirements, drawings, plans, materials and equipment are examined and the extent of preparation required is assessed in accordance with workplace procedures
- 1.3** Work health and safety (WHS)/occupational health and safety (OHS) and environmental risk control measures are identified, evaluated and prioritised
- 1.4** Relevant requirements for the response are obtained for all work sites and communicated to all person/s in accordance with workplace procedures
- 1.5** WHS/OHS, environmental and sustainable energy policies and procedures are obtained and applied
- 1.6** Relevant work permit/s are obtained to coordinate the work in accordance with job/regulatory requirements and workplace procedures
- 1.7** Resources, including person/s, equipment, tools and personal protective equipment (PPE), required for the job are identified, coordinated, obtained and checked for correct operation and safety in accordance with workplace procedures
- 1.8** Communication issues with relevant stakeholders are resolved and response coordinated in accordance with requirements and workplace procedures
- 1.9** Person/s participating in the work, including plant operators and contractors, are briefed and responsibilities coordinated and authorised, as required, in accordance with workplace procedures
- 1.10** System status is confirmed through communication with pipeline control centre in accordance with workplace procedures
- 1.11** Site preparation, safety plan and work schedule are confirmed in accordance with workplace procedures

2 Manage first response to a

- 2.1** WHS/OHS and risk control measures, schedule of work and workplace procedures for carrying out the work are

gas facility event	followed
	2.2 First aid and other related work procedures are performed in accordance with requirements and workplace procedures
	2.3 Hazardous activities are safely exercised in accordance with regulatory requirements and workplace procedures
	2.4 Equipment faults are identified through inspection and testing of operational equipment in accordance with work schedule and job requirements
	2.5 Hazard warnings and safety signs are recognised, hazards and WHS/OHS risks are assessed and reported to authorised person/s for directions in accordance with workplace procedures
	2.6 Operating conditions of equipment are monitored through checking gauge levels, temperatures and flow indicators to determine performance of equipment and system
	2.7 Emergency authorities are liaised and communicated with, as required, to ensure the safety of the public and property
	2.8 Fault-finding and troubleshooting techniques are applied to identify any repairs or maintenance required in accordance with job requirements and workplace procedures
	2.9 Solutions to non-routine problems are identified and actioned in accordance with requirements
	2.10 Quality and safety checks of the work are undertaken in accordance with job requirements and workplace procedures
3 Complete gas facility event response and relevant documentation	3.1 Work undertaken is checked against work schedule for conformance and anomalies and proposed solutions identified and reported in accordance with workplace procedures
	3.2 Incidents and injuries are reported and followed up in accordance with requirements and workplace procedures
	3.3 Work site is rehabilitated/cleaned up and confirmed safe in accordance with 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 work permit/s are signed off in accordance with job requirements
- 3.6 Work completion records, reports, documentation and as installed/modified drawing/s are completed, processed and appropriate person/s notified

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 Volume Implementation Guide.

Unit Mapping Information

This unit replaces and is equivalent to UEGNSG350 First response to a gas facility event.

Links

Companion Volume Implementation Guides are found in VETNet -
<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=6a6c032e-ffcb-4f3d-8063-415efbd261e8>

Assessment Requirements for UEGNSG317 First response to a gas facility event

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 and performance criteria on at least two separate occasions and include:

- applying relevant work health and safety (WHS)/occupational health and safety (OHS) requirements, including:
 - applying safe manual handling techniques
 - implementing risk control measures
 - reading and interpreting material safety data sheets (MSDS)/safety data sheets (SDS)
 - ensuring emergency response procedures are in place
 - maintaining a safe and clean worksite
 - working safely with hazardous materials and equipment
- applying negotiation skills
- applying planning skills
- applying relevant industry standards, guidelines, codes of practice and regulations
- applying relevant workplace policies and procedures
- applying sustainable energy and environmental principles and practices
- checking and operating relevant equipment and tools
- checking gauge levels, temperatures and flow indicators
- communicating effectively in the workplace
- completing gas facility event response
- completing relevant documentation, reports, records and drawings
- conducting briefings
- conducting quality and safety checks
- controlling initial threats to the integrity of pipeline facility
- dealing with unplanned events
- identifying abnormal conditions of stations and reporting
- identifying and evaluating threats to the integrity of pipeline facility
- inspecting and testing equipment
- interpreting technical drawings and plans
- managing first response to a gas facility event

- obtaining relevant work permits
- operating a gas detector
- operating multi-meters
- operating pipe locator
- performing first aid
- planning for first response to a gas facility event.

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:

- electrical fundamentals for the gas industry
- gas facility event response
- gas industry facilities and infrastructure
- gas industry products, processes and characteristics
- hazardous activities, including lifting, climbing, working in confined spaces and aloft
- operation of gas industry plant, equipment and materials
- pipeline licence conditions
- problem-solving techniques
- relevant gas industry documentation
- relevant industry standards, guidelines, codes of practice and regulations
- relevant WHS/OHS legislated requirements, including:
 - emergency, accident and incident situations
 - emergency/incident control procedures
 - environmental and sustainable energy principles and practices
 - hazard identification and reporting
 - hazardous and flammable materials
 - implementing risk control measures
 - MSDS/SDS and spill kits
 - Personal protective equipment (PPE)
 - risk assessment
- relevant workplace policies and procedures
- security breach procedures
- station functions, including identification of abnormal conditions of stations and reporting
- relevant manufacturer specifications
- relevant safe work method statements (SWMS)/job safety assessments or risk mitigation processes
- relevant industry plant, equipment, tools and materials
- threats to the integrity of pipeline facility
- first aid
- fault-finding and troubleshooting techniques.

Assessment Conditions

As a minimum, assessors must satisfy applicable regulatory requirements, which include requirements in the Standards for Registered Training Organisations current at the time of assessment.

As a minimum, assessment must satisfy applicable regulatory requirements, which include requirements in the Standards for Registered Training Organisations current at the time of assessment.

Assessment must occur in workplace operational situations where it is appropriate to do so; where this is not appropriate, assessment must occur in simulated workplace operational situations that replicate workplace conditions.

Assessment processes and techniques must be appropriate to the language, literacy and numeracy requirements of the work being performed and the needs of the candidate.

Resources for assessment must include access to:

- a range of relevant exercises, case studies and/or 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>

UEGNSG501 Communicate with gas industry stakeholders to meet operational requirements

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 use technical communication skills and techniques to effectively liaise and communicate with relevant parties to ensure gas deliveries and operations are carried out within contractual, operational and regulatory requirements.

It includes planning, identifying and carrying out Control Centre communication with gas industry stakeholders. It also includes completing workplace procedures for communication and liaising with gas industry stakeholders.

This unit applies to gas industry production, transmission and distribution areas, where communication processes occur.

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

Pre-requisite Unit

Not applicable

Competency Field

Control Centre Discipline

Unit Sector

Gas Industry

Elements and Performance Criteria

ELEMENTS

Elements describe the essential outcomes.

1 Plan Control Centre communication with gas

PERFORMANCE CRITERIA

Performance criteria describe the performance needed to demonstrate achievement of the element.

1.1 Work schedules, drawings, plans, requirements, and workplace procedures are detailed and communicated to

industry stakeholders	Control Centre, analysed as required to determine the extent of work preparation for planning, coordination and follow-on communication purposes
1.2	Communication work is prioritised and sequenced for efficient and effective outcome following consultation with persons for completion within agreed timeframes to industry standards and in accordance with workplace Control Centre procedures
1.3	Risk control measures for identified communication hazards are prioritised, implemented and evaluated against the work schedule
1.4	Relevant requirements and workplace procedures for communication work is communicated to relevant persons and work sites
1.5	Work health and safety (WHS)/occupational health and safety (OHS), environmental and sustainable energy policies and workplace procedures related to communication work are identified
1.6	Relevant work permits are issued to coordinate the performance of work in accordance with requirements and workplace procedures
1.7	Liaison and communication with authorised persons, authorities, clients, and other relevant stakeholders are undertaken to resolve issues and coordinate work activities
1.8	Persons participating in the communication work are briefed and respective responsibilities coordinated and authorised, as required, in accordance with workplace Control Centre procedures
2 Carry out gas industry stakeholder communication	2.1 Relevant WHS/OHS, operational and commercial requirements and practices of individual stakeholders are referenced and actioned in accordance with Control Centre and workplace procedures
	2.2 Work is monitored, performed and coordinated in accordance with industry standards
	2.3 Control Centre hazard warnings are recognised, and WHS/OHS hazards and risks are identified, assessed and reported to the authorised persons for directions in accordance with workplace procedures

	2.4 Remedial actions are identified and communicated to relevant stakeholders to overcome any shortfalls encountered in the work schedule in accordance with requirements and workplace procedures 2.5 Unplanned situations are responded to in accordance with workplace procedures in a manner that minimises risk to personnel and equipment 2.6 Industry specific language is used to facilitate accurate and relevant exchange of information 2.7 Enquiries outside area of responsibility and knowledge are referred to the appropriate person for resolution
3 Complete procedures for communication and liaison with gas industry stakeholders	3.1 Communication work undertaken is checked for conformance against procedures, anomalies are documented and solutions identified in accordance with workplace procedures 3.2 Accidents and injuries are reported in accordance with requirements and workplace procedures 3.3 Work site is confirmed safe and operational in accordance with workplace procedures and status communicated to relevant stakeholders 3.4 Relevant equipment and processes are returned to service, stakeholders advised as required and relevant work permit/s are signed off and closed 3.5 Notification of completion of work and tasks is communicated to relevant stakeholders in accordance with workplace procedures 3.6 Agreed outcomes are monitored, as required, and communicated to stakeholders in accordance with workplace requirement 3.7 Communication completion processes are performed in accordance with workplace procedures

Foundation Skills

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

Range of Conditions

Range is restricted to essential operating conditions and any other variables essential to the work environment.

Non-essential conditions may be found in the UEG Gas Industry Training Package Companion Volume Implementation Guide.

Unit Mapping Information

This unit replaces and is equivalent to UEGNSG512 Control centre communication with gas industry stakeholders.

Links

Companion Volume Implementation Guides are found in VETNet -
<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=6a6c032e-ffcb-4f3d-8063-415efbd261e8>

Assessment Requirements for UEGNSG501 Communicate with gas industry stakeholders to meet operational requirements

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:

- analysing communication process functions and problems
- applying relevant customer service policies and procedures
- applying relevant work health and safety (WHS)/occupational health and safety (OHS) requirements, including using of risk control measures
- applying sustainable energy principles and practices
- communicating effectively with gas industry stakeholders
- completing procedures for communication and liaison with gas industry stakeholders
- dealing effectively with unplanned events in accordance with workplace procedures in a manner that minimises risk to personnel and equipment
- determining communication requirements for gas industry stakeholders
- identifying and carrying out gas industry stakeholders Control Centre communication requirements
- locating, interpreting and applying relevant information, including SCADA information
- maintaining relevant workplace records
- using appropriate workplace language and communication technologies and techniques
- using strategies for dealing with difficult situations.

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:

- Control Centre communication, including oral, written and electronic communications, with stakeholders, including:
 - regulatory bodies
 - relevant customers and suppliers
 - workplace colleagues
 - workplace managers

- Control Centre communication, negotiation and problem-solving techniques required in a gas industry environment, including:
 - clear and accurate observation and analytical techniques
 - effective consultative techniques
 - negotiation, dispute resolution and problem-solving techniques
 - techniques to communicate routine and non-routine information clearly to senior managers, peers and subordinates
 - techniques to liaise effectively with a range of clients
 - techniques to monitor and introduce practices designed to improve performance
- gas industry products, processes and characteristics, including:
 - gas mass flow
 - gas pressure
 - gas quality
 - gas temperature
- relevant job safety assessments or risk mitigation processes
- relevant WHS/OHS legislated requirements
- relevant workplace documentation
- relevant workplace policies and procedures.

Assessment Conditions

Assessors must hold credentials specified within the Standards for Registered Training Organisations current at the time of assessment.

Assessment must satisfy the Principles of Assessment and Rules of Evidence and all regulatory requirements included within the Standards for Registered Training Organisations current at the time of assessment.

Assessment must occur in workplace operational situations where it is appropriate to do so; where this is not appropriate, assessment must occur in simulated workplace operational situations that replicate workplace conditions.

Assessment processes and techniques must be appropriate to the language, literacy and numeracy requirements of the work being performed and the needs of the candidate.

Resources for assessment must include access to:

- a range of relevant exercises, case studies and/or other simulations
- relevant and appropriate materials, tools, equipment and personal protective equipment (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>

UEGNSG502 Implement emergency and critical incident response for gas infrastructure incidents

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 implement emergency and critical incident responses for gas infrastructure facilities and assets.

It includes implementing incident responses of a critical nature that may impact on the operational effectiveness of the plant or system, endanger human life or property and/or have an adverse impact on the environment.

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

Pre-requisite Unit

Not applicable

Competency Field

Control Centre Discipline

Unit Sector

Gas Industry

Elements and Performance Criteria

ELEMENTS

Elements describe the essential outcomes.

1 Prepare to implement critical incident responses

PERFORMANCE CRITERIA

Performance criteria describe the performance needed to demonstrate achievement of the element.

- 1.1 Workplace procedures and contingency plans for dealing with emergencies and critical incidents are identified
- 1.2 Incident information regarding the scope and severity of the incident is obtained and recorded in accordance with

	workplace procedures
	1.3 Work health and safety (WHS)/occupational health and safety (OHS) hazards and risks are identified in accordance with workplace procedures
	1.4 System constraints are identified for work sites in accordance with workplace procedures and communicated to relevant person/s
	1.5 Operational and commercial requirements are communicated to stakeholders in accordance with workplace procedures
	1.6 WHS/OHS, environmental and sustainable energy policies and procedures related to the work are identified to ensure safe systems of work are followed
2 Implement incident response strategies	2.1 Incidents and threats are analysed, prioritised and sequenced for the most efficient and effective outcome following consultation with others for completion within acceptable timeframes in accordance with workplace procedures
	2.2 Communication with authorised person/s, authorities, clients and land owners is conducted and work coordinated in accordance with workplace procedures
	2.3 Work health and safety (WHS)/occupational health and safety (OHS) hazards and risks are assessed and prioritised, and control measures implemented and monitored in accordance with workplace procedures
	2.4 Actions are taken to reduce the effect of the incident to minimise threats to the public, pipeline, facilities and environment in accordance with requirements, incident response strategy and workplace procedures
3 Complete procedures for implementing critical incident responses	3.1 Incident is continually monitored and assessed for changes and responded to in accordance with incident response strategy and workplace procedures
	3.2 Work completion documentation, records and reports completed, processed and appropriate persons notified in accordance with workplace procedures
	3.3 Debriefing is conducted with relevant person/s to review incident response procedures and develop recommendations for changes to workplace procedures,

as required

Foundation Skills

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

Range of Conditions

Range is restricted to essential operating conditions and any other variables essential to the work environment.

Non-essential conditions may be found in the UEG Gas Industry Training Package Companion Volume Implementation Guide.

Unit Mapping Information

This unit replaces and is equivalent to UEGNSG513 Manage emergencies and critical incidents for gas infrastructure.

Links

Companion Volume Implementation Guides are found in VETNet -
<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=6a6c032e-ffcb-4f3d-8063-415efbd261e8>

Assessment Requirements for UEGNSG502 Implement emergency and critical incident response for gas infrastructure incidents

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 and performance criteria on at least two separate occasions and include:

- analysing and assessing incident information
- applying relevant work health and safety (WHS)/occupational health and safety (OHS) requirements, including:
 - emergency response procedures
 - hazard identification and reporting
 - implementing risk control measures
 - maintaining a safe and clean workplace
- applying contingency plans
- applying environmental and sustainable energy principles and practices
- applying planning skills
- applying relevant legislation, standards, regulations and codes of practice
- communicating effectively in the workplace
- completing procedures for implementing critical incident responses
- completing relevant workplace documentation, reports and records
- dealing with unplanned events and situations in accordance with workplace procedures in a manner that minimises risk to personnel and equipment
- evaluating, responding and reporting threats and incidents to pipeline systems operation
- implementing incident response strategies
- managing communication with relevant stakeholders, including:
 - asset engineering
 - emergency response organisations
 - relevant customers and suppliers
 - workplace colleagues
 - workplace managers
- minimising threats to the public, pipeline, facilities and environment
- monitoring and assessing incident for changes

- monitoring field work
- operating communications equipment
- participating in debrief
- preparing to implement critical incident responses
- responding correctly to alarms
- using relevant field permit to work systems
- working safely in the gas industry by reducing risk.

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:

- communication techniques required in a supervisory role
- contingency plans
- effective operation of gas industry plant, equipment and materials
- emergency and accident situations
- emergency management in the gas sector
- emergency/incident control procedures
- environmental and cultural issues compliance requirements
- escalation of emergency levels
- gas industry products, processes and characteristics
- gas industry reports and documentation
- general principles associated with pipelines and other gas infrastructure
- hazards, risk assessments and control measures
- incident response strategies
- pipeline operational parameters
- problem-solving techniques
- relevance of debriefs
- relevant legislation, standards, regulations and codes of practice
- relevant manufacturer specifications
- relevant permits and notifications required
- relevant safe work method statements (SWMS), job safety assessments and risk mitigation processes
- relevant sections of the pipeline and associated standards and legislation
- relevant stakeholders, including:
 - asset engineering
 - customers and suppliers
 - emergency response organisations
 - property/land owners (including traditional land owners) and tenants
 - regulatory bodies
 - the media

- workplace colleagues
- workplace managers
- safe working practices for implementing emergency and critical incident responses for gas infrastructure
- security breach procedures
- station function, including identification of abnormal conditions of stations and reporting
- strategies for dealing with abnormal operating conditions.

Assessment Conditions

Assessors must hold credentials specified within the Standards for Registered Training Organisations current at the time of assessment.

Assessment must satisfy the Principles of Assessment and Rules of Evidence and all regulatory requirements included within the Standards for Registered Training Organisations current at the time of assessment.

Assessment must occur in workplace operational situations where it is appropriate to do so; where this is not appropriate, assessment must occur in simulated workplace operational situations that replicate workplace conditions.

Assessment processes and techniques must be appropriate to the language, literacy and numeracy requirements of the work being performed and the needs of the candidate.

Resources for assessment must include access to:

- a range of relevant exercises, case studies and/or other simulations
- relevant and appropriate materials, tools, equipment and personal protective equipment (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>

UEGNSG503 Monitor and control field activities

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 monitor and control field activities.

It includes monitoring permit to work requests, despatching, coordinating and monitoring work activities of field personnel, contingency planning, controlling and authorising field works.

It also includes responding to third-party enquiries, alarms and man down alarms, out of hours pipeline notifications, monitoring pipeline activities, availability of assets and equipment status.

It also includes controlling gas flow and quality, controlling pressure and temperature of gas, and preparing incident reports and relevant documentation.

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

Pre-requisite Unit

Not applicable

Competency Field

Gas Control Centre

Unit Sector

Gas Industry

Elements and Performance Criteria

ELEMENTS

Elements describe the essential outcomes.

1 Plan to monitor and control field activities

PERFORMANCE CRITERIA

Performance criteria describe the performance needed to demonstrate achievement of the element.

- 1.1** Work schedules, job requirements and plans are examined to assess the extent of preparation required to plan and coordinate the work

- 1.2 Work is prioritised and sequenced for completion within agreed timeframes following consultation with relevant person/s in accordance with workplace procedures
 - 1.3 Work health and safety (WHS)/occupational health and safety (OHS) hazards and risks are discussed with field personnel
 - 1.4 Recognised system constraints and potential issues are identified for work sites and communicated to relevant person/s in accordance with workplace procedures
 - 1.5 Operational and commercial requirements are communicated in accordance with workplace procedures
 - 1.6 WHS/OHS and sustainable energy policies and procedures are obtained to ensure safe systems of work are followed
 - 1.7 Relevant work permit/s are issued to coordinate the work in accordance with job/regulatory requirements and workplace procedures
 - 1.8 Communications with relevant stakeholders are undertaken and work coordinated in accordance with workplace procedures
- 2 **Monitor and control field activities**
 - 2.1 WHS/OHS policies, procedures and safe work practices are followed
 - 2.2 Work is coordinated and performed in accordance with workplace procedures
 - 2.3 Work is coordinated to ensure completion in agreed timeframe and to industry standards in accordance with job requirements and workplace procedures
 - 2.4 Unplanned events and non-routine problems are identified and actioned in accordance with workplace procedures
- 3 **Complete monitoring and controlling field activities and required documentation**
 - 3.1 Work undertaken is checked against agreed timeframes for conformance and anomalies and proposed solutions identified and documented in accordance with workplace procedures
 - 3.2 Personnel movements and the status of plant and equipment are recorded and relevant work permit/s and field activities signed off and closed in accordance with

workplace procedures

- 3.3 Shift handover procedures are conducted and field activity detail relayed and confirmed with relevant person/s in accordance with workplace procedures
- 3.4 Work completion records, reports and documentation are completed and appropriate person/s notified in accordance with workplace procedures

Foundation Skills

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

Range of Conditions

Range is restricted to essential operating conditions and any other variables essential to the work environment.

Non-essential conditions may be found in the UEG Gas Industry Training Package Companion Volume Implementation Guide.

Unit Mapping Information

This unit replaces and is equivalent to UEGNSG514 Managing and controlling field activities.

Links

Companion Volume Implementation Guides are found in VETNet -
<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=6a6c032e-ffcb-4f3d-8063-415efbd261e8>

Assessment Requirements for UEGNSG503 Monitor and control field activities

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 and performance criteria on at least two separate occasions and include:

- applying relevant industry standards, guidelines, codes of practice, legislation and regulations
- applying relevant work health and safety (WHS)/occupational health and safety (OHS) requirements, including:
 - emergency response procedures
 - hazard identification and reporting
 - implementing risk control measures
 - working safely with hazardous materials and equipment
- applying sustainable energy and environmental principles and practices
- communicating with other authorities and relevant stakeholders
- completing required field activity documentation, records and reports
- conducting quality and safety checks
- conducting shift handover
- dealing with unplanned events and situations in accordance with workplace procedures, in a manner that minimises risk to personnel and equipment
- following workplace procedures
- identifying abnormal conditions and anomalies
- monitoring gas field work activities
- obtaining and using relevant field permit to work systems
- planning to monitor and control field activities
- taking remedial action to address shortfalls in 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:

- fault-finding and troubleshooting techniques
- field activities

- gas industry products, processes and characteristics
- monitoring field work
- principles associated with pipelines and other gas infrastructure
- problem-solving techniques
- quality and safety checks
- relevant field permit to work systems
- relevant industry standards, guidelines, codes of practice, legislation and regulations
- relevant stakeholders, including:
 - authorised persons, authorities and clients
 - emergency response organisations
 - regulatory bodies
 - relevant customers and suppliers
 - workplace colleagues and managers
- relevant WHS/OHS legislated requirements, including:
 - emergency/incident control procedures
 - hazards, risk assessment and control measures
 - sustainable energy principles and practices
- relevant workplace and gas industry documentation, reports and records
- relevant workplace policies and procedures
- shift handover procedures and requirements
- written and oral communication techniques.

Assessment Conditions

Assessors must hold credentials specified within the Standards for Registered Training Organisations current at the time of assessment.

Assessment must satisfy the Principles of Assessment and Rules of Evidence and all regulatory requirements included within the Standards for Registered Training Organisations current at the time of assessment.

Assessment must occur in workplace operational situations where it is appropriate to do so; where this is not appropriate, assessment must occur in simulated workplace operational situations that replicate workplace conditions.

Assessment processes and techniques must be appropriate to the language, literacy and numeracy requirements of the work being performed and the needs of the candidate.

Resources for assessment must include access to:

- a range of relevant exercises, case studies and/or other simulations
- relevant and appropriate materials, tools, equipment and personal protective equipment (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>

UEGNSG504 Monitor and control gas infrastructure using Control Centre systems

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 use Control Centre systems to monitor and control gas infrastructure.

It includes operating Supervisory Control and Data Acquisition (SCADA) and other Control Centre information systems, including outage management systems, alarm management systems, site security and communications systems, and telemetry to effectively manage gas industry infrastructure.

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

Pre-requisite Unit

Not applicable

Competency Field

Control Centre Discipline

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 Plan to use Control Centre systems to monitor and control gas infrastructure

1.1

Work schedules, plans and job requirements are obtained and analysed to determine the preparation work required for planning and coordination

	1.2	Relevant person/s are consulted and work is prioritised and sequenced for completion within agreed timeframes and to industry standards in accordance with workplace procedures
	1.3	Work health and safety (WHS)/occupational health and safety (OHS) and environmental risk assessments are conducted
	1.4	System constraints for gas infrastructure are identified and communicated
	1.5	Operational and commercial requirements of gas infrastructure are communicated
	1.6	WHS/OHS and sustainable energy policies and procedures related to the work are obtained
	1.7	Communication with authorised person/s, authorities and clients is conducted and work coordinated in accordance with work schedule and workplace procedures
2 Monitor and control gas infrastructure using Control Centre systems	2.1	WHS/OHS policies and procedures and safe work practices are followed
	2.2	Work is coordinated and performed in accordance with workplace procedures, operating conditions and nominations
	2.3	Alarms and out-of-specification conditions are responded to in accordance with workplace procedures
	2.4	Operating conditions are monitored and action taken to address any shortfalls or abnormal events encountered in accordance with workplace procedures
	2.5	Gas infrastructure SCADA systems are monitored to ensure quality is observed in accordance with industry standards
	2.6	Unplanned events and non-routine problems are identified and actioned in accordance with workplace procedures
3 Complete procedures for monitoring and controlling gas infrastructure	3.1	Work undertaken is checked for conformance with job requirements, anomalies and proposed solutions are identified and documented in accordance with workplace procedures

- 3.2 Shift handover is conducted and gas infrastructure detail is relayed and confirmed with relevant person/s in accordance with workplace procedures
- 3.3 Work completion records, reports and documentation are completed, processed and appropriate person/s notified in accordance with workplace procedures

Foundation Skills

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

Range of Conditions

Range is restricted to essential operating conditions and any other variables essential to the work environment.

Non-essential conditions may be found in the Companion Volume Implementation Guide.

Unit Mapping Information

This unit replaces and is equivalent to UEGNSG515 Use control centre systems to monitor and control gas infrastructure.

Links

Companion Volume Implementation Guides are found in VETNet -
<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=6a6c032e-ffcb-4f3d-8063-415efbd261e8>

Assessment Requirements for UEGNSG504 Monitor and control gas infrastructure using Control Centre systems

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:

- achieving nominated energy flow targets within system constraints
- applying sustainable energy principles and practices
- applying relevant work health and safety (WHS)/occupational health and safety (OHS) requirements, including:
 - following emergency response procedures
 - hazard identification and reporting
 - implementing risk control measures
- applying relevant legislation, standards, regulations and codes of practice
- communicating effectively with relevant stakeholders
- dealing with unplanned events and situations in accordance with workplace procedures in a manner that minimises risk to personnel and equipment
- evaluating, responding and reporting threats to pipeline systems operation
- extracting data and pre-formatted reports from the SCADA system
- identifying SCADA system anomalies
- monitoring and controlling gas infrastructure using Control Centre systems
- operating communications equipment
- operating Supervisory Control and Data Acquisition (SCADA) and other associated information systems
- participating in handover
- planning to use control centre systems to monitor and control gas infrastructure
- reporting faults and incidents
- responding to alarms and out-of-specification conditions.

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:

- communication in the workplace
- Control Centre systems and relevant system, including:
 - alarm management systems
 - communications systems
 - outage management systems
 - SCADA
 - site security systems
- emergency/incident procedures
- gas industry products, processes and characteristics
- handover procedures
- hazard identification and reporting
- pipeline operational parameters
- pipeline systems
- problem-solving techniques
- relevant industry standards, guidelines, codes of practice, legislation and regulations
- relevant manufacturer specifications
- relevant safe work method statements (SWMS), job safety assessments or risk mitigation processes
- relevant WHS/OHS regulations, policies and procedures
- relevant workplace policies and procedures
- relevant workplace reports and documentation
- station functions, including identification of abnormal conditions of stations and reporting
- sustainable energy requirements, principles and practices.

Assessment Conditions

Assessors must hold credentials specified within the Standards for Registered Training Organisations current at the time of assessment.

Assessment must satisfy the Principles of Assessment and Rules of Evidence and all regulatory requirements included within the Standards for Registered Training Organisations current at the time of assessment.

Assessment must occur in 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 personal protective equipment (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>

UEGNSG505 Operate and monitor gas infrastructure to meet nominated demand

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 operate and monitor gas infrastructure to meet nominated demand.

It includes assessing and responding to anticipated demand of gas infrastructure, including products and services, communicating with stakeholders, and dealing with product and service issues.

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

Pre-requisite Unit

MSS402061 Use SCADA systems in operations

Competency Field

Gas Control Centre (Gas System Operations)

Unit Sector

Gas Industry

Elements and Performance Criteria

ELEMENTS

Elements describe the essential outcomes.

1 Prepare to operate gas infrastructure to meet nominated demand

PERFORMANCE CRITERIA

Performance criteria describe the performance needed to demonstrate achievement of the element.

- 1.1** Relevant information, job requirements and workplace procedures are obtained and analysed to assess the extent of preparation required to plan and coordinate the work
- 1.2** Work is prioritised and sequenced for completion within

agreed timeframes following consultation with others in accordance with workplace procedures

- 1.3 Work health and safety (WHS)/occupational health and safety (OHS) hazards and risks are assessed and control measures implemented and monitored in accordance with workplace procedures
- 1.4 Job requirements and workplace procedures for the work are obtained for work sites and communicated to relevant person/s
- 1.5 Gas schedule is produced in accordance with the information collected and workplace procedures
- 1.6 Communication with relevant stakeholders is conducted and gas schedule produced based on bid and/or nomination information
- 1.7 Approval from relevant stakeholders is obtained with possible solutions and options
- 1.8 Person/s participating in the work, including plant operators and contractors, are briefed and responsibilities coordinated and authorised, as required, in accordance with workplace procedures
- 1.9 Plant and safety checks are undertaken in accordance with job requirements and workplace procedures

2 Operate and monitor gas infrastructure to meet nominated demand

- 2.1 WHS/OHS policies and procedures and safe work practices are followed to eliminate or minimise incidents and hazards
- 2.2 Work is performed and coordinated in accordance with work schedule and job requirements
- 2.3 Work schedule is monitored and adjusted to varying customer demands in accordance with requirements and workplace procedures
- 2.4 Abnormal conditions and unplanned events and situations are recognised and responded to in accordance with workplace procedures
- 2.5 Problem-solving and troubleshooting techniques are applied to identified problems in accordance with job requirements and workplace procedures

3 Complete and review gas infrastructure work

- 3.1** Work undertaken is checked against work schedule for conformance with job requirements and anomalies reported in accordance with workplace procedures
- 3.2** Work completion records, reports and documentation is completed, processed and the appropriate person/s notified in accordance with workplace procedures

Foundation Skills

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

Range of Conditions

Range is restricted to essential operating conditions and any other variables essential to the work environment.

Non-essential conditions may be found in the UEG Gas Industry Training Package Companion Volume Implementation Guide.

Unit Mapping Information

This unit replaces and is equivalent to UEGNSG511 Operate gas infrastructure to meet nominated demand.

Links

Companion Volume Implementation Guides are found in VETNet -
<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=6a6c032e-ffcb-4f3d-8063-415efbd261e8>

Assessment Requirements for UEGNSG505 Operate and monitor gas infrastructure to meet nominated demand

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 and performance criteria on at least two separate occasions and include:

- actioning work requests from other parties
- analysing process functions and problems
- applying relevant customer service policies and procedures
- applying relevant procedures for equipment use
- applying relevant work health and safety (WHS)/occupational health and safety (OHS) requirements
- applying sustainable energy and environmental principles and practices
- carrying out work in regular or specified timeframe
- communicating effectively
- conducting plant safety checks
- dealing with unplanned events and situations in accordance with workplace procedures in a manner that minimises risk to personnel and equipment
- locating Control Centres or other places where communication processes occur
- locating, interpreting and applying relevant information, including:
 - alarm listing
 - customer demand and specifications
 - operating limits
 - piping and instrumentation diagram (P&ID)
 - process flow diagrams (PFD)
- maintaining relevant workplace records
- operating gas infrastructure to meet nominated demand
- performing work under or without supervision
- planning to operate gas infrastructure to meet nominated demand
- producing gas schedule
- producing system generated reports, including:
 - customer specific
 - daily and weekly

- trending
- using appropriate SCADA language
- using strategies for dealing with difficult situations and a variety of stakeholders, including:
 - relevant customers and suppliers
 - workplace colleagues
 - workplace managers.

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:

- application of applicable operating requirements of commercial agreements and contractual requirements in the gas industry
- excavation machinery and their effects used near pipelines
- gas industry facilities and infrastructure, including:
 - compression facilities
 - gas processing facilities including coal seam methane plants
 - liquefied petroleum gas (LPG) processing facilities
 - odourisation facilities
 - pipeline locations
 - regulation and metering facilities
 - scraper stations and pigging facilities
- gas industry WHS/OHS legislated requirements
- gas industry production, transmission and distribution areas
- gas industry products, processes and characteristics
- gas industry reports and documentation
- location of Control Centres and other places where communication processes occur
- operating principles associated with pipelines and other gas infrastructure, including:
 - pigging techniques and their roles for pipeline maintenance
 - pipeline specifications
 - pipeline threats, identification and control
 - relevant manufacturer specifications
 - relevant pipeline legislation, regulatory and advisory standards and codes of practice
 - relevant safe work method statements (SWMS), job safety assessments and risk mitigation processes
- relevance of coating and cathodic corrosion protection
- relevant workplace documentation
- relevant workplace policies and procedures
- stakeholders
- SCADA trends, alarms, set points and security levels.

Assessment Conditions

Assessors must hold credentials specified within the Standards for Registered Training Organisations current at the time of assessment.

Assessment must satisfy the Principles of Assessment and Rules of Evidence and all regulatory requirements included within the Standards for Registered Training Organisations current at the time of assessment.

Assessment must occur in workplace operational situations where it is appropriate to do so; where this is not appropriate, assessment must occur in simulated workplace operational situations that replicate workplace conditions.

Assessment processes and techniques must be appropriate to the language, literacy and numeracy requirements of the work being performed and the needs of the candidate.

Resources for assessment must include access to:

- a range of relevant exercises, case studies and/or other simulations
- relevant and appropriate materials, tools, equipment and personal protective equipment (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>

UEGNSG509 Remotely monitor and operate gas transmission flow and pressure measuring and regulating devices

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 remotely monitor and operate complex gas flow control and pressure measuring and regulating device to monitor and control gas supply in gas transmission systems in accordance with relevant legislation, codes of practice, regulations and workplace procedures.

It includes remotely monitoring gas flow control and pressure measuring and regulating device system performance by checking and controlling flow and pressure measuring device. It also includes recording and reporting regulation of the system, equipment, organisational and statutory requirements.

The application of the skills and knowledge described in this unit may require a licence/registration to practise in the workplace.

Other conditions may apply under state and territory legislative and regulatory licensing requirements which must be confirmed prior to commencing this unit.

Pre-requisite Unit

MSS402061 Use SCADA systems in operations

Competency Field

Control Centre Discipline

Unit Sector

Gas Industry

Elements and Performance Criteria

ELEMENTS

PERFORMANCE CRITERIA

Elements describe the essential Performance criteria describe the performance needed to

outcomes.

demonstrate achievement of the element.

1 Prepare to monitor gas flow control and pressure measuring and regulating device remotely

- 1.1** Work requirements for monitoring and operating complex gas flow control, pressure measuring and regulating device are interpreted from schedules, plan/s, specifications and instructions
- 1.2** Relevant gas supply monitoring requirements and workplace procedures for work are communicated to relevant person/s
- 1.3** Work health and safety (WHS)/occupational health and safety (OHS), environmental and sustainable energy workplace policies and procedures related to gas supply monitoring and operating of complex gas flow controls are obtained and confirmed
- 1.4** Work activities are prioritised and sequenced following consultation with relevant person/s for completion within acceptable timeframes and in accordance with workplace procedures
- 1.5** WHS/OHS and environmental risk control measures for identified hazards are prioritised, implemented and monitored
- 1.6** Relevant work permits are obtained to access, isolate/de-energise systems, as required, and work activities performed in accordance with job requirements and workplace procedures
- 1.7** Liaison and communication with authorised person/s, authorities, clients and land owners are undertaken to resolve gas supply issues and work activities monitored in accordance with workplace procedures
- 1.8** Person/s participating in work activities are fully briefed and respective responsibilities confirmed, as required, in accordance with workplace procedures
- 1.9** Third-party issues are referred to appropriate person/s in accordance with workplace procedures

2 Monitor gas flow control and pressure measuring and regulating device system performance remotely

- 2.1** WHS/OHS and environmental workplace policies, procedures and safe work practices are followed to eliminate or minimise risk of harm from incidents and hazards

- 2.2 Information on gas supply device and equipment performance is collected and reported in accordance with organisational requirements
 - 2.3 Dealings with customers are consistent with workplace procedures and the specific needs of customer/s are identified and considered in targeting client service
 - 2.4 Routine checks of system are scheduled and monitored in accordance with the work schedule and workplace procedures
 - 2.5 Hazard warnings and safety signs are recognised and hazards are identified, assessed and WHS/OHS risks are reported to the authorised person/s for directions in accordance with workplace procedures
 - 2.6 Unplanned events are responded to in accordance with levels of responsibility and emergency response procedures
 - 2.7 System performance data and usage is collected, analysed and reported with any unplanned events from remote monitoring operation of complex gas flow control in accordance with workplace procedures
 - 2.8 Samples are taken in accordance with workplace procedures and known solutions to a variety of problems are applied
 - 2.9 Ongoing checks of quality of work are undertaken in accordance with given instructions and workplace procedures
- 3 Control and adjust gas flows and complete records and reports**
- 3.1 Gas flow and overflow regulating systems are checked and adjusted to meet demand and customer requirements
 - 3.2 Incidents and injuries are reported in accordance with workplace procedures, as required
 - 3.3 Gas flows and diversion/s are determined to facilitate repair or emergency activities in accordance with organisational requirements
 - 3.4 Process faults and operational conditions of the gas transmission system are identified, addressed and reported in accordance with organisational requirements

- 3.5 Relevant work permit/s are signed off in accordance with job requirements
- 3.6 Work completion records, reports and documentation are finalised and processed and appropriate person/s notified

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 Companion Volume Implementation Guide.

Unit Mapping Information

This unit replaces and is equivalent to UEGNSG507 Remotely monitor and operate gas transmission flow and pressure measuring and regulating devices.

Links

Companion Volume Implementation Guides are found in VETNet - <https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=6a6c032e-ffcb-4f3d-8063-415efbd261e8>

Assessment Requirements for UEGNSG509 Remotely monitor and operate gas transmission flow and pressure measuring and regulating devices

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 and performance criteria on at least two separate occasions and include:

- applying relevant work health and safety (WHS)/occupational health and safety (OHS) requirements, including:
 - workplace procedures and practices
 - using risk control measures
- applying sustainable energy principles and practices
- completing records and reports
- controlling and adjusting gas supply flow remotely
- dealing effectively with unplanned events in accordance with workplace procedures in a manner that minimises risk to personnel and equipment
- monitoring remotely and operating of gas flow control and pressure measuring and regulating devices for gas pressure and flow control in gas transmission systems in accordance with relevant legislation, codes of practice, regulations 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:

- gas conditioning and monitoring equipment, including principles of operation, fault finding, adjustments, replacement and minor repairs
- gas facilities/station venting, purging and pressurisation operations
- gas flow measurement equipment types
- gas pressure control equipment, including principles of operation
- gas transmission pipeline flow control, pressure, measuring and regulating devices
- gas transmission systems relevant legislation, codes of practice and regulations
- monitoring and operating complex flow control, measuring and regulating devices on gas transmission systems
- principles of control systems used in monitoring and control of applicable organisational gas

infrastructure

- relevant manufacturer specifications, manuals and procedures
- relevant safe work method statements (SWMS)/job safety assessments or risk mitigation processes including safe working practices
- relevant WHS/OHS legislated requirements
- relevant workplace documentation, records and reports
- relevant workplace policies and procedures
- remote telemetry units (RTU's) and associated controller operation.

Assessment Conditions

Assessors must hold credentials specified within the Standards for Registered Training Organisations current at the time of assessment.

Assessment must satisfy the Principles of Assessment and Rules of Evidence and all regulatory requirements included within the Standards for Registered Training Organisations current at the time of assessment.

Assessment must occur in workplace operational situations where it is appropriate to do so; where this is not appropriate, assessment must occur in simulated workplace operational situations that replicate workplace conditions.

Assessment processes and techniques must be appropriate to the language, literacy and numeracy requirements of the work being performed and the needs of the candidate.

Resources for assessment must include access to:

- a range of relevant exercises, case studies and/or other simulations
- relevant and appropriate materials, tools, facilities, equipment and personal protective equipment (PPE) currently used in industry
- resources used should reflect current industry practices for monitoring and operating gas transmission flow and pressure measuring and regulating device remotely
- 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>

UEGNSG701 Disconnect and reconnect data logging equipment

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 disconnect and reconnect data logging equipment, complete work and relevant workplace records and documentation.

This unit applies to any work site where meters and data loggers are installed, and subject to all work health and safety (WHS)/occupational health and safety (OHS) and duty of care requirements being met for the workplace.

The application of the skills and knowledge described in this unit may require a licence/registration to practise in the workplace.

Other conditions may apply under state and territory legislative and regulatory licensing requirements which must be confirmed prior to commencing this unit.

Pre-requisite Unit

Not applicable.

Competency Field

Support Services

Unit Sector

Gas Industry

Elements and Performance Criteria

ELEMENTS

Elements describe the essential outcomes.

1 Prepare to disconnect and reconnect data logging equipment

PERFORMANCE CRITERIA

Performance criteria describe the performance needed to demonstrate achievement of the element.

- 1.1** Instructions for the work are obtained and confirmed with relevant person/s in accordance with workplace procedures and manufacturer instructions

- 1.2 Job requirements and workplace procedures for the work are discussed with relevant person/s to confirm the work schedule
 - 1.3 Work health and safety (WHS)/occupational health and safety (OHS) requirements and workplace procedures for relevant work area are identified, obtained and applied
 - 1.4 Relevant work permit/authorisations are obtained and confirmed with relevant person/s in accordance with job requirements and workplace procedures
 - 1.5 Location and access to equipment is organised and confirmed
 - 1.6 Resources, including equipment, tools, materials and personal protective equipment (PPE), required to undertake activities are identified, obtained and checked for correct operation and safety in accordance with workplace procedures and manufacturer instructions
 - 1.7 Issues are referred to appropriate person/s in accordance with industry standards and workplace procedures
 - 1.8 Work site is prepared, safety plan and work schedule are confirmed with relevant person/s in accordance with workplace procedures
- 2 Disconnect and reconnect data logging equipment**
- 2.1 WHS/OHS risk control measures, schedule of work and workplace procedures for carrying out work are followed
 - 2.2 Stray current testing and protection is undertaken in accordance with industry standards, regulations and workplace procedures
 - 2.3 Data logging equipment is disconnected and reconnected correctly and safely in accordance with manufacturer instructions and workplace procedures
 - 2.4 Work is carried out to the required quality standard, without waste of materials or damage to apparatus, equipment, and the surrounding environment or services
 - 2.5 Hazard warnings and safety signs are recognised, hazards assessed and WHS/OHS risks reported to authorised person/s for directions in accordance with workplace procedures

	2.6	Unplanned events are dealt with in consultation with relevant person/s and in accordance with workplace procedures and manufacturer instructions
	2.7	Data logging interface is aligned, tested and verified
	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	WHS/OHS risk control measures for work completion measures and procedures are followed
	3.2	Final checks are performed to ensure quality of work complies with manufacturer instructions, industry standards and regulations
	3.3	Relevant person/s are notified of work completion in accordance with workplace procedures
	3.4	Equipment, tools and any surplus resources and materials are cleaned, checked and stored securely or disposed of in accordance with workplace procedures
	3.5	Work area is tidied and made safe in accordance with job instructions and workplace procedures
	3.6	Work completion records and documentation are completed 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 Volume Implementation Guide.

Unit Mapping Information

This is a new unit.

Links

Companion Volume Implementation Guides are found in VETNet -
<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=6a6c032e-ffcb-4f3d-8063-415efbd261e8>

Assessment Requirements for UEGNSG701 Disconnect and reconnect data logging equipment

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 and performance criteria on at least two separate occasions and include:

- aligning, testing and verifying data logging interface
- 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
 - recognising hazard warnings and safety signs
 - selecting and using relevant personal protective equipment (PPE)
- communicating effectively with relevant personnel and customers
- completing work and relevant documentation
- dealing with unplanned events/situations in accordance with workplace procedures in a manner that minimises risk to personnel and equipment
- disconnecting and reconnecting data logging equipment
- following manufacturer instructions
- following work schedule, safety plan and job requirements
- following workplace policies and procedures
- identifying and accessing materials, tools, equipment and testing devices
- jointing and terminating wiring for data logging equipment safely and correctly according to manufacturers' instructions and industry standards
- maintaining a clean and safe work site
- performing quality, safety and final checks
- referring issues
- undertaking stray current testing and protection
- using relevant communication devices, including smartphones and laptops.

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:

- communication skills to liaise with internal and external person/s
- customer metering equipment and components
- quality, safety and final checks
- relevant legislation, industry standards, guidelines, codes of practice and regulations
- relevant manufacturer instructions
- relevant permits required
- relevant safe work method statements (SWMS)/job safety assessments or risk mitigation processes
- relevant tools, equipment and devices, including:
 - cable tracers
 - multimeters
 - smartphones and laptops
 - testing equipment
 - wire jointing equipment
- relevant WHS/OHS policies and procedures, including:
 - environmental and safety hazards
 - hazard identification
 - hazard warnings and safety signs
 - relevant PPE
 - risk assessment and control measures
 - safety requirements for entering domestic and commercial customer sites
- relevant WHS/OHS legislated requirements
- relevant workplace documentation, forms, reports and manuals, including paper based and electronic types
- relevant workplace policies and procedures
- site and data issues
- site preparation, work schedules, safety plans and job requirements
- stray current testing and protection.

Assessment Conditions

Assessors must hold credentials specified within the Standards for Registered Training Organisations current at the time of assessment.

Assessment must satisfy the Principles of Assessment and Rules of Evidence and all regulatory requirements included within the Standards for Registered Training Organisations current at the time of assessment.

Assessment must occur in workplace operational situations where it is appropriate to do so; where this is not appropriate, assessment must occur in simulated workplace operational situations that replicate workplace conditions.

Assessment processes and techniques must be appropriate to the language, literacy and numeracy

requirements of the work being performed and the needs of the candidate.

Resources for assessment must include access to:

- a range of relevant exercises, case studies and/or other simulations
- relevant and appropriate materials, tools, equipment and personal protective equipment (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>

UEGNSG702 Disconnect and reconnect small capacity gas meters

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 disconnect, replace and reconnect small capacity union connected gas meters and associated components by a designated gas industry person, complete work and relevant workplace records and documentation.

It includes using tools and equipment to test the customer gas piping system and associated meter connection filters, regulators and components for gas tightness.

Small capacity union connected gas meters typically flow less than 30 cubic meters per hour.

This unit applies to any safe work site where small capacity gas meters are installed, and subject to all work health and safety (WHS)/occupational health and safety (OHS) and duty of care requirements being met for the workplace.

The application of the skills and knowledge described in this unit may require a licence/registration to practise in the workplace.

Other conditions may apply under state and territory legislative and regulatory licensing requirements which must be confirmed prior to commencing this unit.

Pre-requisite Unit

Not applicable.

Competency Field

Support Services

Unit Sector

Gas Industry

Elements and Performance Criteria

ELEMENTS

PERFORMANCE CRITERIA

Elements describe the essential Performance criteria describe the performance needed to

outcomes.

demonstrate achievement of the element.

1 Prepare to disconnect, replace and reconnect gas meters

- 1.1** Instructions for the work are obtained and confirmed with relevant person/s in accordance with workplace procedures
- 1.2** Job requirements and workplace procedures for the work are discussed with relevant person/s to confirm the work schedule
- 1.3** Work health and safety (WHS)/occupational health and safety (OHS), environmental and sustainable energy measures and workplace policies and procedures are obtained and applied
- 1.4** Hazards are identified, WHS/OHS risks assessed and control measures prioritised, implemented and monitored in accordance with workplace procedures
- 1.5** Scope of responsibility under the relevant work permit/authorisations is obtained and confirmed with relevant person/s in accordance with job requirements and workplace procedures
- 1.6** Resources, including equipment, tools, materials and personal protective equipment (PPE), required to undertake gas meter work are identified, obtained and checked for correct operation and safety in accordance with workplace procedures and manufacturer instructions
- 1.7** Responsibilities for work safety and emergency procedures at the work site are confirmed with relevant person/s in accordance with job requirements and workplace procedures
- 1.8** Relevant persons are consulted to ensure the appliance relight is coordinated effectively with others involved
- 1.9** Issues are referred to appropriate person/s in accordance with industry standards and workplace procedures
- 1.10** Work site is prepared, safety plan and work schedule are confirmed with relevant person/s in accordance with workplace procedures

2 Disconnect, replace and reconnect gas meters

- 2.1** WHS/OHS risk control measures, schedule of work and workplace procedures for carrying out work are followed

- 2.2 Materials, tools, equipment and devices to perform gas meter work are selected and used correctly and safely in accordance with manufacturer instructions and workplace procedures
 - 2.3 Operational knowledge for utilising correct and safe use of basic equipment and tools to perform gas meter work is confirmed
 - 2.4 Gas meter work is undertaken using stray current testing and protection in accordance with industry standards, regulations and workplace procedures
 - 2.5 Customer piping system, meter connections, filters, regulators and associated components are tested for gas tightness in accordance with industry standards, regulations and workplace procedures
 - 2.6 Work is carried out to the required quality standard, without damage to apparatus, equipment, and the surrounding environment or services
 - 2.7 Hazard warnings and safety signs are recognised, hazards assessed and WHS/OHS risks reported to authorised person/s for directions in accordance with workplace procedures
 - 2.8 Unplanned events are referred to relevant person/s for further instructions in accordance with workplace procedures
 - 2.9 Quality and safety checks of the work are undertaken in accordance with job instructions, industry standards and workplace procedures
 - 2.10 Gas meters, filters and regulators are stored and transported in accordance with workplace procedures and manufacturer instructions
- 3 Complete work and relevant documentation**
- 3.1 WHS/OHS risk control measures for work completion measures and procedures are followed
 - 3.2 Final checks, including visual observation, are performed to ensure quality of work complies with manufacturer instructions, industry standards and regulations
 - 3.3 Relevant person/s are notified of work completion in accordance with workplace procedures

- 3.4 Equipment, tools and any surplus resources and materials are cleaned, checked and stored securely or disposed of in accordance with workplace procedures
- 3.5 Work area is tidied and made safe in accordance with job instructions and workplace procedures
- 3.6 Meter details and readings, work completion records and documentation are completed 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 Volume Implementation Guide.

Unit Mapping Information

This unit replaces and is equivalent to UEGNSG705 Disconnect and reconnect small capacity gas meters.

Links

Companion Volume Implementation Guides are found in VETNet -
<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=6a6c032e-ffcb-4f3d-8063-415efbd261e8>

Assessment Requirements for UEGNSG702 Disconnect and reconnect small capacity gas meters

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 and performance criteria on at least two separate occasions and include:

- 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:
 - communicating effectively with relevant personnel and customers
 - completing work and relevant documentation
 - coordinating appliance relight
 - dealing with unplanned events/situations in accordance with workplace procedures in a manner that minimises risk to personnel and equipment
 - disconnecting, replacing and reconnecting gas meter
 - following manufacturer instructions
 - following work schedule, safety plan and job requirements
 - following workplace policies and procedures
 - hazard identification and reporting
 - implementing risk control measures
 - maintaining a clean and safe work site
 - performing quality, safety and final checks
 - recognising hazard warnings and safety signs
 - referring issues
 - selecting and using relevant personal protective equipment (PPE)
 - storing and transporting requirements for gas meters and associated equipment
 - testing meter components for gas tightness
 - undertaking stray current testing and protection
 - using tools and equipment to disconnect, reconnect and replace gas meter.

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:

- communication skills to liaise with internal and external person/s
- customer piping systems and meter components
- gas meter installation requirements
- gas meter storage and transporting requirements
- gas tightness testing
- problem-solving techniques
- quality, safety and final check procedures
- relevant legislation, industry standards, guidelines, codes of practice and regulations
- relevant manufacturer instructions
- relevant permits required
- relevant safe work method statements (SWMS)/job safety assessments or risk mitigation processes
- relevant tools, equipment and devices
- relevant WHS/OHS policies and procedures, including:
 - hazard identification
 - risk assessment and control measures
 - hazard warnings and safety signs
 - environmental and safety hazards
 - relevant PPE
 - safety requirements for entering domestic and commercial customer sites
- relevant workplace policies and procedures
- site and data issues
- site preparation, work schedules, safety plans and job requirements
- small capacity gas meter disconnection, reconnection and replacement
- stray current testing and protection
- workplace forms and reports.

Assessment Conditions

Assessors must hold credentials specified within the Standards for Registered Training Organisations current at the time of assessment.

Assessment must satisfy the Principles of Assessment and Rules of Evidence and all regulatory requirements included within the Standards for Registered Training Organisations current at the time of assessment.

Assessment must occur in workplace operational situations where it is appropriate to do so; where this is not appropriate, assessment must occur in simulated workplace operational situations that replicate workplace conditions.

Assessment processes and techniques must be appropriate to the language, literacy and numeracy requirements of the work being performed and the needs of the candidate.

Resources for assessment must include access to:

- a range of relevant exercises, case studies and/or 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>

UEGNSG703 Fault find and repair data logging equipment

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 fault find and repair data logging equipment.

It includes preparing to find and repair faults, completing and reporting on repair activities.

This unit applies to any work site where meters and data loggers are installed, and subject to all work health and safety (WHS)/occupational health and safety (OHS) and duty of care requirements being met for the workplace.

The application of the skills and knowledge described in this unit may require a licence/registration to practise in the workplace.

Other conditions may apply under state and territory legislative and regulatory licensing requirements which must be confirmed prior to commencing this unit.

Pre-requisite Unit

Not applicable

Competency Field

Support Services

Unit Sector

Gas Industry

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 find and repair	1.1 Work health and safety (WHS)/occupational health and safety (OHS) requirements and workplace procedures

faults		for relevant work area are identified, obtained and applied
	1.2	Instructions for the work are obtained and confirmed with relevant person/s in accordance with workplace procedures and manufacturer instructions
	1.3	Nature of the fault is obtained from documentation and/or from relevant person/s to determine scope of work
	1.4	Relevant work permit/authorisations are obtained and confirmed with relevant person/s in accordance with job requirements and workplace procedures
	1.5	Location and access to equipment is organised and confirmed
	1.6	Materials required for the work are determined in accordance with workplace procedures
	1.7	Tools, equipment and testing devices required for work are obtained in accordance with workplace procedures and checked for correct operation and safety
2 Find and repair faults	2.1	WHS/OHS risk control measures, schedule of work and workplace procedures for carrying out work are followed
	2.2	Stray current testing and protection is undertaken in accordance with industry standards, regulations and workplace procedures
	2.3	Data logging equipment is checked and isolated, if required, in accordance with WHS/OHS requirements and workplace procedures
	2.4	Fault finding and repairs are undertaken correctly and safely in accordance with manufacturer instructions and workplace procedures
	2.5	Data logging components are disconnected, de-energised, serviced, replaced and recommissioned, as necessary, and parts returned as required
	2.6	The repair is tested in accordance with workplace procedures
	2.7	Unplanned events are dealt with in consultation with relevant person/s and in accordance with workplace

		procedures and manufacturer instructions
3 Complete and report repair activities	3.1	WHS/OHS work completion risk control measures and workplace procedures are followed
	3.2	Final checks are performed to ensure quality of work complies with manufacturer instructions, industry standards and regulations
	3.3	Equipment, tools and any surplus resources and materials are cleaned, checked and stored securely or disposed of in accordance with workplace procedures
	3.4	Work area is tidied and made safe in accordance with job instructions and workplace procedures
	3.5	Work completion reporting is conducted and relevant person/s notified in accordance with workplace procedures
	3.6	Malicious and/or third-party damage 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.

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 Training Package Companion Volume Implementation Guide.

Unit Mapping Information

This is a new unit.

Links

Companion Volume Implementation Guides are found in VETNet -
<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=6a6c032e-ffcb-4f3d-8063-415efbd261e8>

Assessment Requirements for UEGNSG703 Fault find and repair data logging equipment

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 and performance criteria on at least two separate occasions and include:

- applying methodical fault-finding techniques
- applying relevant work health and safety (WHS)/occupational health and safety (OHS) requirements, including:
 - hazard identification and reporting
 - implementing risk control measures
 - recognising hazard warnings and safety signs
 - selecting and using relevant personal protective equipment (PPE)
- communicating effectively with relevant personnel and customers
- completing work and relevant documentation
- coordinating work with relevant person/s
- dealing with unplanned events/situations in accordance with workplace procedures in a manner that minimises risk to personnel and equipment
- finding and repairing faults to components without damage, including:
 - de-energising
 - disconnecting
 - recommissioning
 - replacing
 - servicing
- following manufacturer instructions
- following work schedule, safety plan and job requirements
- following workplace policies and procedures
- jointing and terminating wiring for data logging equipment safely and correctly according to manufacturers' instructions and industry standards
- maintaining a clean and safe work site
- performing quality, safety and final checks
- performing stray current testing and protection
- referring issues

- using materials, tools, equipment and testing devices
- using relevant communication devices, including smartphones and laptops.

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:

- communication skills to liaise with internal and external person/s
- customer metering systems and components, including:
 - circuit boards
 - componentry and connections
 - diagnostic processes
 - meters
 - version updates/upgrades
- quality, safety and final checks
- relevant legislation, industry standards, guidelines, codes of practice and regulations
- relevant manufacturer instructions
- relevant permits required
- relevant safe work method statements (SWMS)/job safety assessments or risk mitigation processes
- relevant tools, equipment and devices, including:
 - cable tracers
 - multimeters
 - smartphones and laptops
 - testing equipment
 - wire jointing equipment
- relevant WHS/OHS policies and procedures, including:
 - environmental and safety hazards
 - hazard identification
 - hazard warnings and safety signs
 - relevant PPE
 - risk assessment and control measures
 - safety requirements for entering domestic and commercial customer sites
- relevant WHS/OHS legislated requirements
- relevant workplace documentation, forms, reports and manuals, including paper based and electronic types
- relevant workplace policies and procedures
- site and data issues
- site preparation, work schedules, safety plans and job requirements
- stray current testing and protection.

Assessment Conditions

Assessors must hold credentials specified within the Standards for Registered Training Organisations current at the time of assessment.

Assessment must satisfy the Principles of Assessment and Rules of Evidence and all regulatory requirements included within the Standards for Registered Training Organisations current at the time of assessment.

Assessment must occur in suitable workplace operational situations where it is appropriate to do so; where this is not appropriate, assessment must occur in suitable simulated workplace operational situations that replicate workplace conditions.

Assessment processes and techniques must be appropriate to the language, literacy and numeracy requirements of the work being performed and the needs of the candidate.

Resources for assessment must include access to:

- a range of relevant exercises, case studies and/or simulations
- relevant and appropriate materials, tools, equipment and personal protective equipment (PPE) currently used in industry
- applicable documentation, including workplace procedures, 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>

UEGNSG704 Install and commission data logging equipment

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 install and commission data logging equipment. The application this unit may include high density residential and commercial dwellings and facilities.

It includes preparing, installing, and commissioning data logging equipment, as well as completing and reporting installation activities.

This unit applies to any work site where meters are installed, and subject to all work health and safety (WHS)/occupational health and safety (OHS) and duty of care requirements being met for the workplace.

The application of the skills and knowledge described in this unit may require a licence/registration to practise in the workplace.

Other conditions may apply under state and territory legislative and regulatory licensing requirements which must be confirmed prior to commencing this unit.

Pre-requisite Unit

Not applicable

Competency Field

Support Services

Unit Sector

Gas Industry

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 install data logging equipment

- 1.1** Instructions for the work are obtained and confirmed with relevant person/s in accordance with workplace procedures
- 1.2** Job requirements and workplace procedures for the work are discussed with relevant person/s to confirm the work schedule
- 1.3** WHS/OHS requirements and workplace procedures are identified and applied
- 1.4** Hazards are identified, risks are assessed and control measures implemented
- 1.5** Installation of the data logging equipment is prepared in consultation with relevant person/s
- 1.6** Nature and location of work is determined from documentation and/or relevant person/s to determine scope of work
- 1.7** Location and access to equipment is organised and confirmed
- 1.8** Location of data logging and associated equipment is planned within constraints of building structure, conditions, and regulations
- 1.9** Advice is sought from relevant person/s and stakeholder/s to ensure work is coordinated with others in accordance with workplace procedures
- 1.10** Materials needed for installation work are obtained in accordance with workplace procedures and checked against job requirements
- 1.11** Resources, including equipment, tools, materials and personal protective equipment (PPE), required to undertake the work are identified, obtained and checked for correct operation and safety in accordance with workplace procedures and manufacturer instructions

2 Install data logging equipment

- 2.1** WHS/OHS risk control measures and procedures for carrying out the work are followed
- 2.2** Stray current testing and protection is undertaken in accordance with industry standards, regulations and workplace procedures

- 2.3 Materials, tools, equipment and devices to perform the work are selected and used correctly and safely in accordance with manufacturer instructions and workplace procedures
 - 2.4 The data logging equipment is installed, connected, and commissioned in accordance with manufacturer instructions, workplace procedures and job requirements
 - 2.5 Unplanned situations and faults are dealt with safely in consultation with relevant authorised person/s in accordance with workplace procedures
 - 2.6 Quality and safety checks of the work are undertaken in accordance with workplace procedures, industry standards and manufacturer instructions
- 3 **Complete work and relevant documentation**
 - 3.1 WHS/OHS work completion risk control measures and workplace procedures are followed
 - 3.2 Final checks are performed to ensure quality of work complies with manufacturer instructions, industry standards and regulations
 - 3.3 Relevant person/s are notified of work completion in accordance with workplace procedures
 - 3.4 Worksite is cleaned and made safe in accordance with workplace procedures
 - 3.5 Equipment, tools and any surplus resources and materials are cleaned, checked and stored securely or disposed of in accordance with workplace procedures
 - 3.6 Work completion records and documentation are completed in accordance with job requirements 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 Training Package Companion Volume Implementation Guide.

Data logging equipment must include at least one of the following:

- usage measurement
- pressure measurement

Unit Mapping Information

This is a new unit.

Links

Companion Volume Implementation Guides are found in VETNet -
<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=6a6c032e-ffcb-4f3d-8063-415efbd261e8>

Assessment Requirements for UEGNSG704 Install and commission data logging equipment

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 and performance criteria on at least two separate occasions and include:

- aligning, testing and verifying data logging interface
- 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
 - recognising hazard warnings and safety signs
- communicating effectively with relevant personnel and customers
- completing work and relevant documentation
- dealing with unplanned events/situations in accordance with workplace procedures in a manner that minimises risk to personnel and equipment
- following manufacturer instructions and specifications
- following work schedule, safety plan and job requirements
- following workplace policies and procedures
- installing and commissioning data logging and associated equipment according to manufacturer instructions
- jointing and terminating wiring for data logging equipment safely and correctly according to manufacturers' instructions and industry standards
- maintaining a clean and safe work site
- obtaining and using tools, materials, PPE and testing devices
- obtaining relevant materials and checking against job requirements
- referring issues
- undertaking quality and safety checks in accordance with relevant industry standards
- undertaking stray current testing and protection
- using testing equipment for testing pre-installed cabling and components
- using relevant communication devices, including smartphones and laptops.

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:

- communication skills to liaise with internal and external person/s
- customer metering equipment and components
- equipment specifications
- quality and safety checks
- relevant legislation, industry standards, guidelines, codes of practice and regulations
- relevant manufacturer specifications and installation instructions
- relevant permits required
- relevant safe work method statements (SWMS)/job safety assessments or risk mitigation processes
- relevant tools, equipment and devices, including:
 - cable tracers
 - multimeters
 - smartphones and laptops
 - testing equipment
 - wire jointing equipment
- relevant WHS/OHS legislated requirements
- relevant WHS/OHS policies and procedures, including:
 - environmental and safety hazards
 - hazard identification
 - hazard warnings and safety signs
 - relevant PPE
 - risk assessment and control measures
 - safety requirements for entering customer sites
- relevant workplace documentation, forms and manuals, including paper based and electronic types
- relevant workplace policies and procedures
- site and data issues
- site preparation, work schedules, safety plans and job requirements.

Assessment Conditions

Assessors must hold credentials specified within the Standards for Registered Training Organisations current at the time of assessment.

Assessment must satisfy the Principles of Assessment and Rules of Evidence and all regulatory requirements included within the Standards for Registered Training Organisations current at the time of assessment.

Assessment must occur in 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 personal protective equipment (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>

UEGNSG707 Process data logging information

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 select and use appropriate technology to process data logging information.

It includes the use of relevant tools and equipment, including computer software and relevant applications.

The application of the skills and knowledge described in this unit may require a licence/registration to practise in the workplace.

Other conditions may apply under state and territory legislative and regulatory licensing requirements which must be confirmed prior to commencing this unit.

Pre-requisite Unit

Not applicable.

Competency Field

Support Services

Unit Sector

Gas Industry

Elements and Performance Criteria

ELEMENTS

Elements describe the essential outcomes.

1 Select and use technology to record information

PERFORMANCE CRITERIA

Performance criteria describe the performance needed to demonstrate achievement of the element.

- 1.1** Work health and safety (WHS)/occupational health and safety (OHS) policies and procedures are obtained applied in accordance with workplace procedures

	1.2	Recommendations to assist others with processing data logging work are made in accordance with workplace procedures
	1.3	Technical equipment and tools required for the work are obtained and checked for correct operation in accordance with workplace procedures and manufacturer instructions
2 Process data logging information	2.1	WHS/OHS risk control measures, schedule of work and workplace procedures are followed
	2.2	Relevant materials, tools, equipment and devices are selected and used correctly in accordance with manufacturer instructions and workplace procedures
	2.3	Information processing is carried out to the required quality standard, and the surrounding environment or services
	2.4	Data is stored, updated and retrieved using relevant technology in accordance with job instructions and workplace procedures
	2.5	Unplanned events or conditions are referred to relevant person/s for directions in accordance with workplace procedures
	2.6	Relevant manuals, manufacturer instructions and websites are consulted to assist with solving problems encountered when processing data logging information in accordance workplace procedures
	2.7	Quality and accuracy checks of the data are undertaken in accordance with workplace procedures
3 Complete work and relevant documentation	3.1	Accidents and incidents are actioned and reported to relevant person/s in accordance with workplace procedures
	3.2	Work completion records and equipment faults are reported 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 Volume Implementation Guide.

Unit Mapping Information

This is a new unit.

Links

Companion Volume Implementation Guides are found in VETNet -
<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=6a6c032e-ffcb-4f3d-8063-415efbd261e8>

Assessment Requirements for UEGNSG707 Process data logging information

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 and performance criteria on at least two separate occasions and include:

- applying relevant work health and safety (WHS)/occupational health and safety (OHS) requirements
- applying relevant industry standards, guidelines, codes of practice and regulations
- communicating effectively in the workplace
- dealing with unplanned events/situations in accordance with workplace procedures in a manner that minimises risk to personnel and equipment
- performing quality and accuracy checks
- processing data logging information
- selecting and operating appropriate tools/equipment/technology/devices
- selecting and using technology to process information
- sourcing information from relevant resources to assist with problem solving
- storing, updating and retrieving data.

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:

- data issues
- data logging information processing requirements and procedures
- quality and accuracy checks
- relevant manufacturer instructions
- relevant tools/equipment/technology/devices
- relevant WHS/OHS legislated requirements
- relevant workplace documentation
- workplace policies and procedures.

Assessment Conditions

Assessors must hold credentials specified within the Standards for Registered Training Organisations current at the time of assessment.

Assessment must satisfy the Principles of Assessment and Rules of Evidence and all regulatory requirements included within the Standards for Registered Training Organisations current at the time of assessment.

Assessment must occur in workplace operational situations where it is appropriate to do so; where this is not appropriate, assessment must occur in simulated workplace operational situations that replicate workplace conditions.

Assessment processes and techniques must be appropriate to the language, literacy and numeracy requirements of the work being performed and the needs of the candidate.

Resources for assessment must include access to:

- a range of relevant exercises, case studies and/or other simulations
- relevant and appropriate materials, tools, equipment and personal protective equipment (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>

UEGNSG709 Process meter reading information using appropriate technology

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 select and use appropriate technology to process meter reading information and maintain equipment.

It includes the use of relevant tools and equipment, including hand held or wireless/remote recording equipment, computers, computer software and relevant applications and discs, drives and back-up systems.

The application of the skills and knowledge described in this unit may require a licence/registration to practise in the workplace.

Other conditions may apply under state and territory legislative and regulatory licensing requirements which must be confirmed prior to commencing this unit.

Pre-requisite Unit

Not applicable.

Competency Field

Support Services

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 Select and use technology

1.1 Work instructions are obtained and confirmed with

to record information	relevant person/s
1.2	Job requirements and workplace procedures are obtained and discussed with relevant person/s to confirm the work schedule
1.3	Work health and safety (WHS)/occupational health and safety (OHS), environmental and sustainable energy policies and procedures are obtained applied in accordance with workplace procedures
1.4	Recommendations to assist others with processing meter reading work are made in accordance with workplace procedures
1.5	Hazards are identified, risks are assessed and control measures prioritised, implemented and monitored in accordance with workplace procedures
1.6	Scope of responsibility under the relevant work permits/authorisations are obtained and confirmed with relevant person/s in accordance with job requirements and workplace procedures
1.7	Technical equipment and tools required for the work are obtained and checked for correct operation and safety in accordance with workplace procedures and manufacturer instructions
1.8	Issues are referred to relevant person/s in accordance with industry standards and workplace procedures
1.9	Work site preparation and work schedule are confirmed with relevant person/s in accordance with workplace procedures
2 Process meter reading information	
2.1	WHS/OHS risk control measures, schedule of work and workplace procedures are followed
2.2	Relevant materials, tools, equipment and devices are selected and used correctly and safely in accordance with manufacturer instructions and workplace procedures
2.3	Information processing is carried out to the required quality standard, without damage to apparatus, equipment, and the surrounding environment or services
2.4	Data is stored, updated and retrieved using relevant technology in accordance with job instructions and

workplace procedures

2.5 Hazard warnings and safety signs are recognised and newly identified hazards and WHS/OHS risks are assessed and reported to relevant person/s for directions in accordance with workplace procedures

2.6 Unplanned events or conditions are referred to relevant person/s for directions in accordance with workplace procedures

2.7 Relevant manuals, manufacturer instructions and websites are consulted to assist with solving problems encountered when processing meter readings in accordance workplace procedures

2.8 Quality and accuracy checks of the work are undertaken in accordance with job instructions and workplace procedures

3 Maintain equipment

3.1 WHS/OHS risk control measures for work completion are followed

3.2 Accidents and incidents are actioned and reported to relevant person/s in accordance with workplace procedures

3.3 Work area is tidied and made safe in accordance with job instructions and workplace procedures

3.4 Minor maintenance of meter reading technology/equipment is undertaken, as required, in accordance with workplace procedures and manufacturer specifications

3.5 Technology consumables are identified and any surplus resources and materials are checked, cleaned and securely stored in accordance with workplace procedures

3.6 Relevant person/s are notified of work completion in accordance with workplace procedures

3.7 Work completion records and equipment faults are reported 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 Volume Implementation Guide.

Unit Mapping Information

This unit replaces and is equivalent to UEGNSG711 Process meter reading information using appropriate technology.

Links

Companion Volume Implementation Guides are found in VETNet -
<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=6a6c032e-ffcb-4f3d-8063-415efbd261e8>

Assessment Requirements for UEGNSG709 Process meter reading information using appropriate technology

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 and performance criteria on at least two separate occasions and include:

- applying environmental and sustainable energy principles and practices
- applying relevant work health and safety (WHS)/occupational health and safety (OHS) requirements, including:
 - actioning and reporting accidents and incidents
 - hazard identification and reporting
 - implementing risk control measures
- applying relevant industry standards, guidelines, codes of practice and regulations
- communicating effectively in the workplace
- dealing with unplanned events/situations in accordance with workplace procedures in a manner that minimises risk to personnel and equipment
- maintaining a safe and clean workplace
- maintaining equipment
- obtaining and interpreting job requirements, work instructions and work schedule
- performing minor maintenance on meter reading equipment/technology
- performing quality and accuracy checks
- processing meter reading information
- referring issues
- selecting and operating appropriate tools/equipment/technology/devices
- selecting and using technology to record information
- sourcing information from relevant resources to assist with problem solving
- storing, updating and retrieving data.

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:

- environmental and sustainable energy principles and practices

- equipment faults
- expected outcomes of a work activity
- hazards, risk assessments and control measures
- meter reading information processing requirements and procedures
- minor maintenance requirements
- problem-solving techniques
- quality and accuracy checks
- relevant legislation, standards, codes of practice, regulations and guidelines
- relevant manufacturer specifications
- relevant permits and authorisations required
- relevant tools/equipment/technology/devices
- relevant WHS/OHS legislated requirements
- relevant workplace documentation
- site and data issues
- site preparation, work schedules, and job requirements
- technology consumables
- work instructions
- workplace policies and procedures.

Assessment Conditions

Assessors must hold credentials specified within the Standards for Registered Training Organisations current at the time of assessment.

Assessment must satisfy the Principles of Assessment and Rules of Evidence and all regulatory requirements included within the Standards for Registered Training Organisations current at the time of assessment.

Assessment must occur in workplace operational situations where it is appropriate to do so; where this is not appropriate, assessment must occur in simulated workplace operational situations that replicate workplace conditions.

Assessment processes and techniques must be appropriate to the language, literacy and numeracy requirements of the work being performed and the needs of the candidate.

Resources for assessment must include access to:

- a range of relevant exercises, case studies and/or other simulations
- relevant and appropriate materials, tools, equipment and personal protective equipment (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>

UEGNSG710 Read and record meter readings

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 plan meter reading routines/sequences, carry out meter readings, complete the reading and record utilities industries meter reading data.

It includes efficient planning and scheduling of routes that include availability of competent meter readers, vehicles and relevant meter reading equipment. It also includes scheduling, sequencing a route for others, accessing account information and records relating to previous readings, recording meter readings, determining damage or faults to meters and updating records to show new and changed information.

The application of the skills and knowledge described in this unit may require a licence/registration to practise in the workplace.

Other conditions may apply under state and territory legislative and regulatory licensing requirements which must be confirmed prior to commencing this unit.

Pre-requisite Unit

Not applicable.

Competency Field

Support Services

Unit Sector

Gas Industry

Elements and Performance Criteria

ELEMENTS

Elements describe the essential outcomes.

1 Plan and record meter

PERFORMANCE CRITERIA

Performance criteria describe the performance needed to demonstrate achievement of the element.

1.1 Work instructions are obtained and confirmed with

reading routine/sequence	relevant person/s and routes planned and mapped to correspond with schedule requirements in accordance with workplace procedures
1.2	Relevant previous records, if applicable, are reviewed
1.3	Work health and safety (WHS)/occupational health and safety (OHS) procedures, environmental and sustainable energy measures and workplace policies and procedures for the work are obtained and applied
1.4	Suggestions to assist with the route planning, reading and recording of meters are made to others involved in the work as required
1.5	Hazards are identified, WHS/OHS risks are assessed and control measures prioritised, implemented and monitored in accordance with workplace procedures
1.6	Resources, including equipment, tools, personal protective equipment (PPE) and route sequences, are obtained and checked for correct working operation and safety in accordance with manufacturer instructions and workplace procedures
1.7	Issues are referred to relevant person/s in accordance with industry and community standards and workplace procedures
1.8	Records are maintained in accordance with job instructions and work schedule for a quality outcome and to minimise risk and damage to property, commerce and individuals in accordance with workplace procedures
2 Carry out meter reading	2.1 WHS/OHS and risk control measures, schedule of work and workplace procedures are followed
	2.2 Relevant materials, tools, equipment and devices are selected and used correctly and safely in accordance with manufacturer instructions and workplace procedures
	2.3 Meter reading is carried out to the required quality standard, without damage to apparatus, equipment, and the surrounding environment or services using sustainable energy principles
	2.4 Meter reading and data recording is carried out in accordance with job instructions and workplace

procedures

	2.5	Hazard warnings and safety signs are recognised, and newly identified hazards WHS/OHS risks assessed and reported to authorised person/s for directions in accordance with workplace procedures
	2.6	Unplanned events or conditions are dealt with in accordance with workplace procedures
3 Complete meter reading and record meter readings	3.1	WHS/OHS risk control measures for work completion are followed
	3.2	Accidents and incidents are actioned and reported to relevant person/s in accordance with workplace procedures
	3.3	Tools, equipment and any surplus resources/materials are cleaned, checked and stored securely in accordance with workplace procedures
	3.4	Relevant person/s are notified of work completion in accordance with workplace procedures
	3.5	Work completion records, report forms and data sheets are completed accurately, with unusually high or low meter readings noted and new or changed information updated 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 Volume Implementation Guide.

Unit Mapping Information

This unit replaces and is equivalent to UEGNSG712 Read and record meter readings.

Links

Companion Volume Implementation Guides are found in VETNet -
<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=6a6c032e-ffcb-4f3d-8063-415efbd261e8>

Assessment Requirements for UEGNSG710 Read and record meter readings

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 and performance criteria on at least two separate occasions and include:

- applying planning skills
- applying relevant legislation, regulations, industry and community standards and codes of practice
- applying relevant work health and safety (WHS)/occupational health and safety (OHS) requirements
- checking tools, equipment, testing devices and personal protective equipment (PPE) for correct operation and safety
- cleaning, checking and storing tools, equipment and surplus resources/materials
- communicating orally and electronically
- undertaking meter reading process and recording data
- coordinating work with others involved
- dealing with unplanned events/situations in accordance with workplace procedures in a manner that minimises risk to personnel and equipment
- following manufacturer instructions
- maintaining a safe and clean workplace
- obtaining and interpreting job requirements and work schedule
- obtaining records on previous routes and meter readings
- performing quality, final and safety checks
- planning and recording meter reading routine/sequence
- recording and updating new or changed information
- recording damage or faults to meters
- recording meter readings.

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:

- environmental and sustainable energy principles and practices

- hazards, risk assessments and control measures
- oral and electronic format for reporting meter reading
- plan and determine routes
- problem-solving techniques
- quality checks
- relevant authorities
- relevant legislation, industry and community standards, codes and regulations
- relevant manufacturer instructions
- relevant materials, tools, equipment, devices and PPE
- relevant permits and authorisations required
- relevant safe work method statements (SWMS)/job safety assessments or risk mitigation processes
- relevant WHS/OHS legislated requirements
- relevant workplace policies and procedures
- relevant workplace records and documentation
- route sequences
- site and data issues
- techniques to communicate both electronically and verbally
- types of meters used for utilities industries
- work safety and emergency procedures
- work schedules and job requirements.

Assessment Conditions

Assessors must hold credentials specified within the Standards for Registered Training Organisations current at the time of assessment.

Assessment must satisfy the Principles of Assessment and Rules of Evidence and all regulatory requirements included within the Standards for Registered Training Organisations current at the time of assessment.

Assessment must occur in 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>

UEGNSG715 Use data logging equipment

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 use data logging equipment.

It includes efficient planning and scheduling the use of data logging equipment. It also includes connecting and removing mobile data loggers, capturing and recording the data received from data logging equipment.

The application of the skills and knowledge described in this unit may require a licence/registration to practise in the workplace.

Other conditions may apply under state and territory legislative and regulatory licensing requirements which must be confirmed prior to commencing this unit.

Pre-requisite Unit

Not applicable

Competency Field

Support Services

Unit Sector

Gas Industry

Elements and Performance Criteria

ELEMENTS

Elements describe the essential outcomes.

1 Prepare to use data logging equipment

PERFORMANCE CRITERIA

Performance criteria describe the performance needed to demonstrate achievement of the element.

1.1 Work instructions are obtained and confirmed with relevant person/s

1.2 Work health and safety (WHS)/occupational health and

safety (OHS) policies and workplace procedures are identified, communicated and confirmed to ensure they are applied in the carrying out of work activities

- 1.3 Tools and equipment for work are identified, scheduled and checked to ensure they work correctly and are safe to use in accordance with workplace procedures
- 1.4 Relevant person/s is consulted to ensure the work is coordinated effectively with others
- 1.5 Resources and materials needed for work are confirmed, scheduled and obtained in accordance with workplace procedures
- 1.6 Schedule of work, including practices for working safely, are confirmed in accordance with workplace instructions and requirements

2 Use data logging equipment

- 2.1 WHS/OHS policies and workplace procedures for safe work practices are followed to eliminate or minimise incidents
- 2.2 Equipment, plant or technologies are used in accordance with schedule of work to ensure work is completed in agreed timelines, to required quality standard and with a minimum of waste
- 2.3 Data logging equipment is connected to asset in accordance with workplace procedures
- 2.4 Data is captured and recorded in accordance with job instructions, manufacturer instructions and workplace procedures
- 2.5 Unplanned situations are responded to in accordance with workplace procedures in a manner that minimises risk to personnel and equipment

3 Complete use of data logging equipment

- 3.1 Data records are maintained in accordance with job requirements, manufacturer instructions, workplace procedures
- 3.2 Relevant person/s is notified of work completion using equipment, plant or technologies
- 3.3 Data logging equipment is removed from asset in accordance with workplace procedures

- 3.4 Tools, equipment and materials are appropriately cleaned, checked and returned to storage in accordance with workplace procedures
- 3.5 Workplace record/s are updated, if required, in accordance with work 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 Companion Volume Implementation Guide.

Data logging equipment must include at least one of the following:

- usage measurement
- pressure measurement

Unit Mapping Information

This is a new unit.

Links

Companion Volume Implementation Guides are found in VETNet -
<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=6a6c032e-ffcb-4f3d-8063-415efbd261e8>

Assessment Requirements for UEGNSG715 Use data logging equipment

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 and performance criteria on at least two separate occasions and include:

- applying relevant legislation, regulations, industry and community standards and codes of practice
- applying relevant work health and safety (WHS)/occupational health and safety (OHS) requirements
- capturing and recording data using data logging equipment
- carrying out data logging and recording processes in accordance with workplace procedures and manufacturer instructions
- checking tools, equipment, testing devices and personal protective equipment (PPE) for correct operation and safety
- cleaning, checking and storing tools, equipment and surplus resources/materials
- completing schedule of work
- completing workplace documentation
- connecting and removing data logging equipment
- dealing with unplanned events/situations in accordance with workplace procedures in a manner that minimises risk to personnel and equipment
- following manufacturer instructions
- following workplace procedures and instruction
- referring issues
- updating work records
- using and returning tools, equipment, personal protective equipment, surplus resources and materials
- using relevant communication devices, including smartphones and laptops.

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:

- customer metering equipment and components

- hazards, risk assessments and control measures
- operating instruction for tools, equipment and technologies
- oral and written format for reporting data reading
- quality checks
- relevant authorities
- relevant legislation, industry and community standards, codes and regulations
- relevant materials, tools, equipment and devices, including:
 - smartphones and laptops
 - measuring equipment
 - hand tools
 - PPE
- relevant manufacturer instructions
- relevant permits and authorisations required
- relevant security measures
- relevant WHS/ OHS policies, procedures and legislated requirements
- relevant workplace documentation, forms, reports and manuals, including paper based and electronic types
- relevant workplace policies, procedures and instructions
- site and data issues
- types of meters used for utilities industries
- work schedules and job requirements.

Assessment Conditions

Assessors must hold credentials specified within the Standards for Registered Training Organisations current at the time of assessment.

Assessment must satisfy the Principles of Assessment and Rules of Evidence and all regulatory requirements included within the Standards for Registered Training Organisations current at the time of assessment.

Assessment must occur in suitable workplace operational situations where it is appropriate to do so; where this is not appropriate, assessment must occur in simulated suitable workplace operational situations that replicate workplace conditions.

Assessment processes and techniques must be appropriate to the language, literacy and numeracy requirements of the work being performed and the needs of the candidate.

Resources for assessment must include access to:

- a range of relevant exercises, case studies and/or simulations
- relevant and appropriate materials, tools, facilities, equipment and personal protective equipment (PPE) currently used in industry
- applicable documentation, including workplace procedures, equipment specifications, regulations, relevant industry standards, 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>

UEGNSG901 Apply safety practices, procedures, and compliance standards for handling hydrogen gas

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 apply safety practices, procedures, and compliance standards for handling hydrogen.

It includes the skills and knowledge required to apply work health and safety (WHS)/occupational health and safety (OHS) regulations, codes and practices in the workplace, industry standards, and follow workplace procedures for hazard identification and risk control for working with hydrogen.

The application of the skills and knowledge described in this unit may require a licence/registration to practise in the workplace.

Other conditions may apply under state and territory legislative and regulatory licensing requirements which must be confirmed prior to commencing this unit.

Pre-requisite Unit

Not applicable

Competency Field

Hydrogen

Unit Sector

Gas Industry

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 handle hydrogen gas	1.1 WHS/OHS requirements, legislative requirements and workplace procedures for a given work area are identified, obtained and applied 1.2 Work area access permits, clearances and isolation permissions are obtained as required from relevant person/s in accordance with workplace procedures 1.3 Appropriate tools, materials and equipment required, including personal protective equipment (PPE), for work are checked for safety and correct functionality in accordance with workplace procedures and relevant industry standards 1.4 Isolation and tagging of plant/machinery and equipment are carried out to prevent creation of hazards from loss of machine, system or process control in accordance with workplace procedures 1.5 Personal protective equipment (PPE) is worn appropriate to the work area and in accordance with workplace procedures
2 Apply safe working practices to handling hydrogen gas	2.1 WHS/OHS risk control measures are implemented including atmospheric testing and other legislative requirements and workplace procedures for carrying out the work followed 2.2 Workplace procedures for dealing with unplanned events and emergencies are followed in accordance with WHS/OHS, legislative requirements
3 Follow workplace procedures for hazard identification and risk control of hydrogen	3.1 Hazards are identified and risk control measures implemented and monitored in consultation with relevant person/s 3.2 WHS/OHS documentation, including incident and maintenance records, are completed in accordance with regulatory requirements and workplace procedures 3.3 WHS/OHS training and directives are followed in accordance with regulatory requirements 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 Volume Implementation Guide.

Handling hydrogen must include at least one of the following environments:

- hydrogen production
- hydrogen storage
- hydrogen injection into gas networks

Unit Mapping Information

This is a new unit.

Links

Companion Volume Implementation Guides are found in VETNet -
<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=6a6c032e-ffcb-4f3d-8063-415efbd261e8>

Assessment Requirements for UEGNSG901 Apply safety practices, procedures, and compliance standards for handling hydrogen gas

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 and performance criteria on at least two separate occasions and include:

- applying relevant work health and safety (WHS)/occupational health and safety (OHS) requirements, including:
 - safe working practices
 - relevant regulations and codes of practices in the workplace
 - training and workplace directives
 - checking tools, materials and equipment for safety and correct operation
 - isolating plant/machinery/equipment, including:
 - demonstrating Lock Out Tag Out procedures
- applying effective atmospheric testing techniques
- completing relevant workplace documentation
- communicating with relevant stakeholders, including:
 - authorised persons
 - authorities
 - clients
- complying with regulations, industry standards, legislative requirements, codes of practice, manufacturers' recommendations and specifications, and environmental requirements
- dealing with unplanned events/situations in accordance with scope of responsibility and workplace procedures, in a manner that minimises risk to personnel and equipment
- following and applying work procedures and instructions as they apply to risk control measures
- identifying hazards and implementing and monitoring control measures, including:
 - identifying potential sources of ignition
- obtaining applicable work permits, clearances and isolation permissions prior to entering the work area
- participating regularly in consultation processes
- preparing to enter a gas work area in accordance with workplace procedures

- reporting hazards to relevant person/s in accordance with workplace procedures
- selecting and using appropriate tools and equipment, including:
 - gas detection equipment
 - personal protective equipment (PPE).

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:

- common causes of hydrogen accidents and ignition
- emergency procedures and incident management requirements and procedures
- hazardous areas, including:
 - hazards associated with working in a hazardous area
 - requirements for working in a designated hazardous area
 - workplace situations that could be classified as a hazardous area
- hazards associated with gas supply work environments
- hydrogen characteristics, including:
 - combustion terminology
 - hydrogen compatibility
 - hydrogen's chemical properties
 - hydrogen's physical properties
 - reaction terminology
 - safe storage procedures and purpose and interpretation of safety data sheet (SDS)
- hydrogen sources
- hydrogen usages
- regulations, industry standards, legislative requirements, codes of practice, manufacturers' recommendations and specifications, and environmental requirements
- relevant stakeholders
- relevant safe work method statements (SWMS)/job safety assessments or risk mitigation processes
- relevant WHS/OHS legislated requirements
- relevant WHS/OHS policies and procedures, including:
 - hazard identification
 - risk assessment and control
- relevant work area access, clearances and isolation permissions/permits
- relevant workplace documentation, policies and procedures
- techniques to check tools, materials and equipment for safety and correct functionality
- techniques to monitor implemented control measures
- working safely with electricity
- working safely with gases.

Assessment Conditions

Assessors must hold credentials specified within the Standards for Registered Training Organisations current at the time of assessment.

Assessment must satisfy the Principles of Assessment and Rules of Evidence and all regulatory requirements included within the Standards for Registered Training Organisations current at the time of assessment.

Assessment must occur in workplace operational situations where it is appropriate to do so; where this is not appropriate, assessment must occur in simulated workplace operational situations that replicate workplace conditions.

Assessment processes and techniques must be appropriate to the language, literacy and numeracy requirements of the work being performed and the needs of the candidate.

Resources for assessment must include access to:

- a range of relevant exercises, case studies and/or simulations
- relevant and appropriate materials, tools, equipment and personal protective equipment (PPE) currently used in industry
- applicable documentation, including workplace procedures, 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>

UEGNSG902 Commission, operate and maintain electrolyzers

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 commission, operate and maintain electrolyzers to produce hydrogen in a hydrogen plant environment in accordance with relevant industry standards, regulations, manufacturer instructions and workplace procedures.

It includes following procedures to carry out the work correctly and safely, using appropriate materials, tools and equipment.

The application of the skills and knowledge described in this unit may require a licence/registration to practise in the workplace.

Other conditions may apply under state and territory legislative and regulatory licensing requirements which must be confirmed prior to commencing this unit.

Pre-requisite Unit

Not applicable

Competency Field

Hydrogen

Unit Sector

Gas Industry

Elements and Performance Criteria

ELEMENTS

Elements describe the essential outcomes.

1 Prepare to commission, operate, and maintain electrolyzers

PERFORMANCE CRITERIA

Performance criteria describe the performance needed to demonstrate achievement of the element.

1.1 Relevant manufacturers' instructions and specifications, emergency procedures, industry codes, standards and regulations are obtained and confirmed

- 1.2 Hazards and WHS/OHS risks are identified and prioritised and control measures implemented and monitored
 - 1.3 Relevant person/s are consulted and work is prioritised and sequenced for completion within agreed timeframes and to industry standards in accordance with workplace procedures
 - 1.4 Work health and safety (WHS)/occupational health and safety (OHS), environmental and sustainable energy policies and procedures for the work are obtained and applied
 - 1.5 Work schedule/s, drawings, plans, job requirements and material lists are obtained, analysed and site inspection conducted, as required, to determine the preparation work required for planning and coordination
 - 1.6 Appropriate 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
 - 1.7 Work area is prepared to minimise risk and damage to property, commerce and individuals in accordance with job instructions, work schedule and workplace procedures
 - 1.8 Electrolyser and associated equipment, pipework and storage are confirmed for correct installation
- 2 Commission and operate electrolyzers**
- 2.1 Regular checks are undertaken in accordance with manufacturers' instructions and specifications, industry codes, standards and regulations
 - 2.2 Relevant manufacturers' instructions and specifications, emergency procedures, industry codes, standards and regulations are implemented
 - 2.3 WHS/OHS risk control measures and policies and procedures are followed in accordance with workplace procedures
 - 2.4 Hazardous activities are performed safely in accordance with job instructions, regulatory requirements and workplace procedures, and manufacturers' instructions and specifications.

- 2.5 Electrolyser is commissioned and operated in accordance with manufacturer instructions, workplace procedures and job requirements
- 2.6 Materials, tools, equipment and devices to perform the work are selected and used correctly and safely in accordance with manufacturer instructions and workplace procedures
- 2.7 Unplanned events are dealt with or referred to authorised person/s for directions in accordance with level of responsibility and workplace procedures
- 2.8 Alarm codes, signage and other hazard warnings are correctly recognised and WHS/OHS risks and control measures monitored, actioned and appropriate authorities consulted in accordance with requirements and workplace procedures
- 2.9 Emergency shutdown procedures are applied in the event of equipment faults/failure or operational parameters being exceeded
- 2.10 Quality and safety checks of the work are conducted in accordance with job requirements, industry standards and workplace procedures

3 Maintain electrolyzers

- 3.1 WHS/OHS risk control measures and policies and procedures are followed in accordance with workplace procedures
- 3.2 Materials, tools, equipment and devices to perform the maintenance work are selected and used correctly and safely in accordance with manufacturer instructions and workplace procedures
- 3.3 Systems isolation is performed, as required, in accordance with requirements and workplace procedures
- 3.4 Electrolyser is maintained and parts replaced as required, in accordance with job requirements, level of responsibility, workplace procedures and manufacturer instructions
- 3.5 Electrolyser is recommissioned to safe operational conditions in accordance with job requirements, workplace procedures and manufacturer instructions
- 3.6 Unplanned events are dealt with or referred to authorised

	person/s for directions in accordance with level of responsibility and workplace procedures
	3.7 Quality and safety checks of the work are conducted in accordance with job requirements, workplace procedures and community and industry standards
4 Complete work and relevant documentation	4.1 Work area is cleaned up, made and confirmed safe in accordance with job instructions and workplace procedures
	4.2 Tools, equipment and any surplus resources and materials are cleaned, checked and returned to storage in accordance with workplace procedures
	4.3 Relevant person/s are notified of work completion in accordance with workplace procedures
	4.4 Work completion records and report forms are completed 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 Volume Implementation Guide.

Unit Mapping Information

This is a new unit.

Links

Companion Volume Implementation Guides are found in VETNet - <https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=6a6c032e-ffcb-4f3d-8063-415efbd261e8>

Assessment Requirements for UEGNSG902 Commission, operate and maintain electrolyzers

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 and performance criteria on at least two separate occasions and include:

- applying relevant work health and safety (WHS)/occupational health and safety (OHS) requirements, including:
 - emergency response procedures
 - sustainable energy and environmental principles and practices
 - hazard identification and reporting
 - hydrogen specific electrical hazard control measures and earth protection
 - implementation of risk control measures
 - selection and use of correct personal protective equipment (PPE)
 - safely working with hazardous materials and equipment
- applying sustainable energy and environmental principles and practices
- checking water supply and waste water systems
- commissioning and operating electrolyzers
- communicating with relevant stakeholders, including:
 - authorised persons
 - authorities
 - clients
- completing work and relevant documentation
- complying with regulations, industry standards, legislative requirements, codes of practice, manufacturers' instructions, recommendations and specifications, and environmental requirements
- conducting quality and safety checks
- dealing with unplanned events/situations in accordance with workplace procedures in a manner that minimises risk to personnel and equipment
- discharging oxygen safely
- following workplace procedures
- obtaining and using relevant equipment and tools, including:
 - alarm and communication equipment

- fittings
- gas analysis equipment
- hand tools
- leak detection
- personal protective equipment (PPE)
- testing equipment
- safety valves
- performing electrolyzers maintenance
- performing stray current testing and protection
- recommissioning electrolyzers to safe operational conditions in accordance with job requirements and workplace procedures
- replacing parts and components in accordance with job requirements, level of responsibility and workplace procedures
- reporting problems encountered to appropriate person/s
- shutting down electrolyser operation
- undertaking systems isolation.

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:

- electrolysis processes including:
 - alkaline electrolysis
 - polymer electrolyte membrane (PEM) electrolysis
- electrolysis system components
- electrical safety, including:
 - principles of Ohms Law
 - stack discharge
- gas conditioning
- gas industry drawings, plans and material lists
- hydrogen physical and chemical characteristics
- plant and equipment in a hydrogen environment, including:
 - alarm and communication equipment
 - fittings
 - gas analysis equipment
 - hand tools
 - leak detection
 - testing equipment
 - water backflow prevention
 - water treatment equipment
- permit to work systems for a hydrogen environment

- principles of safe purging
- principles of electrolysis
- regulations, industry standards, legislative requirements, codes of practice, manufacturers' instructions, recommendations and specifications, and environmental requirements
- relevant safe work method statements (SWMS)/job safety assessments or risk mitigation processes
- relevant stakeholders, including:
 - authorised persons
 - authorities
 - clients
- relevant WHS/OHS legislated requirements, including:
 - applicable emergency equipment and procedures
 - hazardous areas
 - hazards, risk assessment and control measures
 - environmental and sustainable energy principles and practices, including:
 - green hydrogen
 - blue hydrogen
 - grey hydrogen
 - brown hydrogen
- relevant workplace documentation
- quality and safety checks
- relevant workplace policies and procedures
- safe handling of gaseous oxygen
- technical drawings for the hydrogen environment
- working safely in a hydrogen environment.

Assessment Conditions

Assessors must hold credentials specified within the Standards for Registered Training Organisations current at the time of assessment.

Assessment must satisfy the Principles of Assessment and Rules of Evidence and all regulatory requirements included within the Standards for Registered Training Organisations current at the time of assessment.

Assessment must occur in workplace operational situations where it is appropriate to do so; where this is not appropriate, assessment must occur in simulated workplace operational situations that replicate workplace conditions.

Assessment processes and techniques must be appropriate to the language, literacy and numeracy requirements of the work being performed and the needs of the candidate.

Resources for assessment must include access to:

- a range of relevant exercises, case studies and/or other simulations
- relevant and appropriate materials, tools, equipment and personal protective equipment (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>

UEGNSG903 Fault find and repair hydrogen storage equipment

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 fault find and repair equipment in a hydrogen storage facility in accordance with industry standards and regulatory requirements.

It includes preparing to find and repair faults, completing and reporting on repair activities and communicating with the appropriate person/s.

The application of the skills and knowledge described in this unit may require a licence/registration to practise in the workplace.

Other conditions may apply under state and territory legislative and regulatory licensing requirements which must be confirmed prior to commencing this unit.

Pre-requisite Unit

Not applicable

Competency Field

Hydrogen

Unit Sector

Gas Industry

Elements and Performance Criteria

ELEMENTS

Elements describe the essential outcomes.

1 Prepare to find and repair hydrogen storage equipment fault

PERFORMANCE CRITERIA

Performance criteria describe the performance needed to demonstrate achievement of the element.

1.1 Work health and safety (WHS)/occupational health and safety (OHS) requirements and workplace procedures for relevant work area are identified, obtained and applied

- 1.2 Instructions for the work and relevant plans are obtained and confirmed with relevant person/s in accordance with workplace procedures and manufacturer instructions
 - 1.3 Nature of the fault is obtained from documentation and/or from relevant person/s to determine scope of work
 - 1.4 Relevant work permit/authorisations is obtained and confirmed with relevant person/s in accordance with job requirements and workplace procedures
 - 1.5 Location and access to equipment is organised and confirmed
 - 1.6 Appropriate equipment, tools, materials and personal protective equipment (PPE) required for the job are identified, obtained and checked for correct operation and safety in accordance with workplace procedures
 - 1.7 Site is prepared to minimise risk and damage to property, commerce and individuals in accordance with the job requirements and workplace procedures
 - 1.8 Appropriate person/s are communicated with and consulted to ensure work activity is coordinated effectively with person/s involved
- 2 Find and repair hydrogen storage equipment fault**
- 2.1 WHS/OHS risk control measures and policies and procedures are followed in accordance with workplace procedures
 - 2.2 Components are isolated, depressurised, purged, decommissioned, as necessary, in accordance with requirements and workplace procedures
 - 2.3 Service, fault finding, replacement or repairs of components are undertaken correctly and safely in accordance with level of responsibility, manufacturer instructions and workplace procedures
 - 2.4 Components are recommissioned, repressurised, purged as necessary, in accordance with requirements and workplace procedures
 - 2.5 Non-routine/unplanned events are referred to authorised person/s for directions in accordance with workplace procedures

	2.6	Quality and safety checks of the work are conducted in accordance with job requirements, workplace procedures and community and industry standards
3 Complete work and relevant documentation	3.1	Work undertaken is checked for conformance and anomalies and proposed solutions reported to relevant person/s in accordance with workplace procedures
	3.2	Relevant records, reports and documentation are completed, processed and provided to appropriate person/s in accordance with workplace procedures
	3.3	Tools, equipment, components and any surplus resources/materials are cleaned, checked and securely stored and disposed of and returned, if necessary, in accordance with workplace procedures and manufacturer's instructions
	3.4	Work site is rehabilitated/cleaned up and confirmed safe and secure in accordance with workplace procedures
	3.5	Notification of completion of work and tasks is communicated to relevant stakeholders in accordance with workplace procedures

Foundation Skills

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

Range of Conditions

Range is restricted to essential operating conditions and any other variables essential to the work environment.

Non-essential conditions may be found in the UEG Gas Industry Training Package Companion Volume Implementation Guide.

Unit Mapping Information

This is a new unit.

Links

Companion Volume Implementation Guides are found in VETNet -
<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=6a6c032e-ffcb-4f3d-8063-415efbd261e8>

Assessment Requirements for UEGNSG903 Fault find and repair hydrogen storage equipment

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 and performance criteria on at least two separate occasions and include:

- applying relevant fault finding and repair techniques
- applying relevant work health and safety (WHS)/occupational health and safety (OHS) requirements, including:
 - emergency response procedures
 - sustainable energy and environmental principles and practices
 - hazard identification and reporting
 - hydrogen specific electrical hazard control measures and earth protection
 - implementation of risk control measures
 - selection and use of correct personal protective equipment (PPE)
 - safely working with hazardous materials and equipment
- calibrating instruments used in performing tests and checks
- communicating with relevant stakeholders, including:
 - authorised persons
 - authorities
 - qualified persons for the type of repair
- completing relevant reports and documentation
- complying with regulations, industry standards, legislative requirements, codes of practice, manufacturers' recommendations and specifications, and environmental requirements
- dealing with unplanned events
- following workplace procedures, including:
 - decommissioning and recommissioning procedures
 - emergency shutdown procedures
 - standard operating procedures
- interpreting relevant drawings, plans and material lists
- isolating systems
- obtaining and complying with relevant work permits
- performing tests and checks, including:

- corrosion inspections
- electrical checks
- filter checks, including differential pressure
- gas leak test
- inventory checks
- meter checks
- pressure and temperature checks
- status and condition checks on ancillary equipment
- visual inspections of relief vents
- recording relevant information
- shutting down operations and equipment
- using relevant equipment, including:
 - electronic gas detection
 - hand tools
 - measuring equipment
 - personal protective equipment (PPE)
- working safely in a hydrogen environment.

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:

- correct use of plant and equipment in a hydrogen environment, including:
 - how to select appropriate equipment for tasks associated with hydrogen
 - manufacturer specifications to make adjustments to parts where appropriate
 - measuring equipment
 - operating alarm and communication equipment
 - operating hydrogen analysis equipment
 - storage equipment, fitting, piping, and controls
 - test equipment and its uses
- gas industry drawings, plans and material lists
- hydrogen physical and chemical characteristics
- hydrogen storage container pressure and capacity recommendations and limitations
- permit to work systems in a hydrogen environment
- regulations, industry standards, legislative requirements, codes of practice, manufacturers' recommendations and specifications, and environmental requirements
- relevant safe work method statements (SWMS)/job safety assessments or risk mitigation processes
- relevant stakeholders, including:
 - authorised persons

- authorities
- producers and users
- qualified persons for the type of repair
- relevant WHS/OHS legislated requirements, including:
 - applicable emergency equipment and procedures
 - hazards, risk assessment and control measures
 - environmental and sustainable energy principles and practices, including:
 - blue hydrogen
 - brown hydrogen
 - green hydrogen
 - grey hydrogen
- relevant workplace documentation
- quality and safety checks
- relevant workplace policies and procedures, including:
 - decommissioning and recommissioning procedures
 - emergency shutdown procedures
 - standard operating procedures
- techniques for fault finding and repairing equipment in a hydrogen storage facility
- technical drawings for the hydrogen environment.

Assessment Conditions

Assessors must hold credentials specified within the Standards for Registered Training Organisations current at the time of assessment.

Assessment must satisfy the Principles of Assessment and Rules of Evidence and all regulatory requirements included within the Standards for Registered Training Organisations current at the time of assessment.

Assessment must occur in workplace operational situations where it is appropriate to do so; where this is not appropriate, assessment must occur in simulated workplace operational situations that replicate workplace conditions.

Assessment processes and techniques must be appropriate to the language, literacy and numeracy requirements of the work being performed and the needs of the candidate.

Resources for assessment must include access to:

- a range of relevant exercises, case studies and/or other simulations
- relevant and appropriate materials, tools, equipment and personal protective equipment (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>

UEGNSG904 Inject hydrogen gas into distribution networks

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 inject hydrogen gas into distribution networks in accordance with relevant legislation, codes of practice, industry standards, regulations and workplace procedures.

It includes following procedures to carry out the work correctly and safely, using appropriate materials, tools and equipment.

The application of the skills and knowledge described in this unit may require a licence/registration to practise in the workplace.

Other conditions may apply under state and territory legislative and regulatory licensing requirements which must be confirmed prior to commencing this unit.

Pre-requisite Unit

Not applicable

Competency Field

Hydrogen

Unit Sector

Gas Industry

Elements and Performance Criteria

ELEMENTS

Elements describe the essential outcomes.

1 Prepare to inject hydrogen into distribution networks

PERFORMANCE CRITERIA

Performance criteria describe the performance needed to demonstrate achievement of the element.

1.1 Job requirements and workplace procedures for the work are obtained and discussed with relevant person/s to establish and confirm the work schedule

- 1.2 Work health and safety (WHS)/occupational health and safety (OHS), environmental and sustainable energy policies and procedures for the work are obtained and applied
 - 1.3 Hazards and WHS/OHS risks are identified and prioritised and control measures implemented and monitored
 - 1.4 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
 - 1.5 Work area is prepared to minimise risk and damage to property, commerce and individuals in accordance with job instructions, work schedule and workplace procedures
- 2 Inject hydrogen into distribution networks**
- 2.1 WHS/OHS risk control measures and policies and procedures are followed in accordance with workplace procedures
 - 2.2 Hazardous activities are performed safely in accordance with job instructions, regulatory requirements and workplace procedures
 - 2.3 Hydrogen storage tank is positioned safely for injection
 - 2.4 Connection between tank and pipelines is leak tested to ensure gas tightness
 - 2.5 Blending equipment is installed and operated correctly in accordance with workplace procedures
 - 2.6 Potential hazards and safety risks are identified and reported to authorised person/s for directions in accordance with workplace procedures
 - 2.7 Purging is conducted in accordance with workplace procedures
 - 2.8 Hydrogen gas is injected into distribution networks correctly and safely according to job requirements, regulatory requirements, industry standards and workplace procedures

	2.9	Unplanned events are dealt with or referred to authorised person/s for directions in accordance with level of responsibility and workplace procedures
	2.10	Quality and safety checks of the work are conducted in accordance with job requirements, industry standards and workplace procedures
3 Complete work and relevant documentation	3.1	Work area is cleaned up and made safe in accordance with job instructions and workplace procedures
	3.2	Tools, equipment and any surplus resources and materials are cleaned, checked and returned to storage in accordance with workplace procedures
	3.3	Relevant person/s are notified of work completion in accordance with workplace procedures
	3.4	Work completion records and report forms are completed 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 Volume Implementation Guide.

Unit Mapping Information

This is a new unit.

Links

Companion Volume Implementation Guides are found in VETNet -
<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=6a6c032e-ffcb-4f3d-8063-415efbd261e8>

Assessment Requirements for UEGNSG904 Inject hydrogen gas into distribution networks

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 and performance criteria on at least two separate occasions and include:

- applying relevant work health and safety (WHS)/occupational health and safety (OHS) requirements, including:
 - emergency procedures and response actions
 - hazard identification and reporting
 - implementation of risk control measures
 - selection and use of correct personal protective equipment (PPE)
 - safely working with hazardous materials and equipment
- applying sustainable energy and environmental principles and practices
- accessing and handling hydrogen container
- communicating with relevant stakeholders, including:
 - authorised persons
 - authorities
 - clients
 - landowners
 - tenants
- completing work and relevant documentation
- complying with regulations, industry standards, legislative requirements, codes of practice, manufacturers' recommendations and specifications, and environmental requirements
- conducting quality and safety checks
- dealing with unplanned events/situations in accordance with workplace procedures in a manner that minimises risk to personnel and equipment
- following workplace procedures
- injecting hydrogen into distribution networks
- purging the injection line
- obtaining and using relevant equipment and tools, including:
 - alarm and communication equipment
 - fittings

- gas analysis equipment
- hand tools
- leak detection
- measuring equipment
- testing equipment.

Knowledge Evidence

Evidence required to demonstrate competence in this unit must be relevant to and satisfy all of the requirements of the elements and performance criteria and include knowledge of:

- emergency procedures, including shutdown procedures
- gas industry drawings, plans and material lists
- hydrogen characteristics
- hydrogen container status, including:
 - inventory
 - pressure
 - temperature
- permit to work systems for a hydrogen environment
- plant and equipment in a hydrogen environment, including:
 - alarm and communication equipment
 - fittings
 - gas analysis equipment
 - gas analysis equipment
 - hand tools
 - leak detection
 - measuring equipment
 - testing equipment
- regulations, industry standards, legislative requirements, codes of practice, manufacturers' recommendations and specifications, and environmental requirements
- relevant safe work method statements (SWMS)/job safety assessments or risk mitigation processes
- relevant stakeholders, including:
 - authorised persons
 - authorities
 - clients
 - landowners
 - tenants
- relevant WHS/OHS legislated requirements, including:
 - applicable emergency equipment and procedures
 - hazards, risk assessment and control measures

- environmental and sustainable energy principles and practices
- relevant workplace documentation
- quality and safety checks
- relevant workplace policies and procedures
- technical drawings for the hydrogen environment
- working safely in a hydrogen environment.

Assessment Conditions

Assessors must hold credentials specified within the Standards for Registered Training Organisations current at the time of assessment.

Assessment must satisfy the Principles of Assessment and Rules of Evidence and all regulatory requirements included within the Standards for Registered Training Organisations current at the time of assessment.

Assessment must occur in workplace operational situations where it is appropriate to do so; where this is not appropriate, assessment must occur in simulated workplace operational situations that replicate workplace conditions.

Assessment processes and techniques must be appropriate to the language, literacy and numeracy requirements of the work being performed and the needs of the candidate.

Resources for assessment must include access to:

- a range of relevant exercises, case studies and/or other simulations
- relevant and appropriate materials, tools, equipment and personal protective equipment (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>

UEGNSG905 Monitor and control hydrogen in gas distribution networks

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 use control centre systems to monitor and control hydrogen in gas distribution networks.

It includes operating supervisory control and data acquisition (SCADA) and other control centre information systems to monitor hydrogen in gas distribution networks.

The application of the skills and knowledge described in this unit may require a licence/registration to practise in the workplace.

Other conditions may apply under state and territory legislative and regulatory licensing requirements which must be confirmed prior to commencing this unit.

Pre-requisite Unit

Not applicable

Competency Field

Hydrogen

Unit Sector

Gas Industry

Elements and Performance Criteria

ELEMENTS

Elements describe the essential outcomes.

1 Plan to use control centre systems to monitor and control hydrogen in gas

PERFORMANCE CRITERIA

Performance criteria describe the performance needed to demonstrate achievement of the element.

1.1 Work schedules, plans and job requirements are obtained and analysed to determine the preparation work required

distribution networks	for planning and coordination
	1.3 Relevant person/s are consulted and work is prioritised and sequenced for completion within agreed timeframes and to industry standards in accordance with workplace procedures
	1.4 Hazards are identified, work health and safety (WHS)/occupational health and safety (OHS) and environmental risks are assessed and control measures prioritised, implemented and monitored in accordance with workplace procedures
	1.5 Relevant system constraints for gas distribution networks are identified and communicated to relevant person/s in accordance with workplace procedures
	1.6 Operational and commercial requirements of gas distribution networks are communicated to stakeholders in accordance with workplace procedures
	1.7 WHS/OHS, environmental and sustainable energy policies and procedures related to the work are obtained to ensure safe systems of work are followed
	1.8 Communication with authorised person/s, authorities and clients is conducted and work coordinated in accordance with work schedule and workplace procedures
2 Monitor and control hydrogen in gas distribution networks using control centre systems	2.1 WHS/OHS policies and procedures and safe work practices are followed to eliminate or minimise incidents and hazards
	2.2 Work is coordinated and performed in accordance with work schedule, workplace procedures, operating conditions and nominations
	2.3 Alarms and out-of-specification conditions are responded to in accordance with workplace procedures
	2.4 Hazards and WHS/OHS risks are identified and incidents actioned in accordance with workplace procedures
	2.5 Operating conditions are monitored, and action taken to address any shortfalls or deviations encountered in accordance with workplace procedures

	2.6	Gas distribution networks operation systems are monitored to meet quality standards in accordance with job requirements and workplace procedures
	2.7	Unplanned events and non-routine problems are identified and actioned in accordance with workplace procedures
	2.8	Quality and safety checks of the work are conducted in accordance with job requirements, workplace procedures and community and industry standards
3 Complete procedures for monitoring and controlling hydrogen in gas distribution networks	3.1	Work undertaken is checked against work schedule for conformance with job requirements and anomalies and proposed solutions identified and reported in accordance with workplace procedures
	3.2	Shift handover is conducted, and gas distribution networks detail is relayed and confirmed with relevant person/s in accordance with workplace procedures
	3.3	Work completion records, reports and documentation are completed, processed and appropriate person/s notified in accordance with workplace procedures

Foundation Skills

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

Range of Conditions

Range is restricted to essential operating conditions and any other variables essential to the work environment.

Non-essential conditions may be found in the UEG Gas Industry Training Package Companion Volume Implementation Guide.

Unit Mapping Information

This is a new unit.

Links

Companion Volume Implementation Guides are found in VETNet -
<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=6a6c032e-ffcb-4f3d-8063-415efbd261e8>

Assessment Requirements for UEGNSG905 Monitor and control hydrogen in gas distribution networks

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 and performance criteria on at least two separate occasions and include:

- applying relevant work health and safety (WHS)/occupational health and safety (OHS) requirements, including:
 - emergency response procedures
 - sustainable energy and environmental principles and practices
 - hazard identification and reporting
 - implementation of risk control measures
- communicating effectively with relevant stakeholders, including:
 - authorised persons
 - authorities
 - market operators
 - producers
 - users
- completing procedures for monitoring and controlling gas distribution networks
- completing relevant documentation, reports and records
- complying with regulations, industry standards, legislative requirements, codes of practice, manufacturers' recommendations and specifications, and environmental requirements
- conducting quality and safety checks
- dealing with unplanned events/situations in accordance with workplace procedures in a manner that minimises risk to personnel and equipment
- evaluating, responding and reporting threats to pipeline systems operation
- following workplace procedures
- identifying system constraints
- monitoring and controlling hydrogen in gas distribution networks using control centre systems
- operating associated information systems
- operating communications equipment
- participating in handover
- planning to use control centre systems to monitor and control gas distribution networks

- reporting and following up on faults and incidents
- responding to alarms and out-of-specification conditions
- work safely in the gas industry by reducing risk.

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:

- communication in the workplace
- control centre systems and relevant system, including:
 - alarm management systems
 - communications systems
 - outage management systems
 - SCADA
 - site security systems
- effective operation of gas industry systems
- emergency and accident situations
- emergency/incident control procedures
- environmental and sustainable energy requirements
- gas industry reports and documentation
- handover procedures
- hydrogen characteristics
- hazard identification and reporting
- network operational parameters, including:
 - blending requirements
 - monitoring points
- pipeline systems
- problem-solving techniques
- regulations, industry standards, legislative requirements, codes of practice, manufacturers' recommendations and specifications, and environmental requirements
- relevant safe work method statements (SWMS)/job safety assessments or risk mitigation processes
- relevant WHS/OHS regulations, policies and procedures
- relevant workplace documentation
- relevant workplace policies and procedures
- quality and safety checks
- relevant stakeholders, including:
 - authorised persons
 - authorities
 - market operators
 - producers

- users
- station functions, including identification of deviations and reporting.

Assessment Conditions

Assessors must hold credentials specified within the Standards for Registered Training Organisations current at the time of assessment.

Assessment must satisfy the Principles of Assessment and Rules of Evidence and all regulatory requirements included within the Standards for Registered Training Organisations current at the time of assessment.

Assessment must occur in workplace operational situations where it is appropriate to do so; where this is not appropriate, assessment must occur in simulated workplace operational situations that replicate workplace conditions.

Assessment processes and techniques must be appropriate to the language, literacy and numeracy requirements of the work being performed and the needs of the candidate.

Resources for assessment must include access to:

- a range of relevant exercises, case studies and/or other simulations
- relevant and appropriate materials, tools, equipment and personal protective equipment (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>

UEGNSG906 Undertake routine hydrogen storage operations

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 operate hydrogen storage operations in a hydrogen plant environment. It includes planning and undertaking routine monitoring on hydrogen storage operations and shutting down operations in the event of an emergency.

It also includes using relevant resources and equipment, identifying faults and completing relevant reports and documentation.

The application of the skills and knowledge described in this unit may require a licence/registration to practise in the workplace.

Other conditions may apply under state and territory legislative and regulatory licensing requirements which must be confirmed prior to commencing this unit.

Pre-requisite Unit

Not applicable

Competency Field

Hydrogen

Unit Sector

Gas Industry

Elements and Performance Criteria

ELEMENTS

Elements describe the essential outcomes.

1 Plan hydrogen storage operations

PERFORMANCE CRITERIA

Performance criteria describe the performance needed to demonstrate achievement of the element.

- 1.1** Work schedule/s, drawings, plans, job requirements and material lists are obtained, analysed and site inspection conducted, as required, to determine the preparation

work required for planning and coordination

- 1.2 Relevant person/s are consulted and work is prioritised and sequenced for completion within agreed timeframes and to industry standards in accordance with workplace procedures
- 1.3 Hazards and work health and safety (WHS)/occupational health and safety (OHS) risks are identified and prioritised and risk control measures implemented and monitored
- 1.4 WHS/OHS, environmental and sustainable energy policies and procedures related to the work are obtained to ensure safe systems of work are followed in accordance with workplace procedures
- 1.5 Relevant work permit/s are obtained for non-routine activities to complete the work in accordance with job/regulatory requirements and workplace procedures
- 1.6 Appropriate equipment, tools and personal protective equipment (PPE) required for the job are identified, obtained and checked for correct operation and safety in accordance with workplace procedures
- 1.7 Site is prepared to minimise risk and damage to property, commerce and individuals in accordance with the work schedule and workplace procedures

2 Undertake hydrogen storage operations

- 2.1 WHS/OHS risk control measures and policies and procedures are followed in accordance with workplace procedures
- 2.2 Systems isolation is performed in accordance with requirements and workplace procedures
- 2.3 Operation of storage system is monitored to ensure safety and efficiency and system operations communicated to relevant person/s and other work areas in accordance with workplace procedures
- 2.4 Hydrogen storage operation controls are adjusted and monitored in accordance with work schedule, job requirements and workplace procedures
- 2.5 Alarm codes, signage and other hazard warnings are correctly recognised and WHS/OHS risks and control measures monitored, actioned and appropriate authorities consulted in accordance with requirements

and workplace procedures

- 2.6 Unplanned events are dealt with in accordance with level of responsibility and workplace procedures
- 2.7 Work is coordinated to ensure completion in agreed timeframe and to industry standards with a minimum of waste in accordance with job requirements and workplace procedures
- 2.8 Fault-finding and troubleshooting techniques are applied to problems encountered in accordance with level of responsibility and workplace procedures
- 2.9 Emergency shutdown procedures are applied in the event of equipment faults/failure or operational parameters being exceeded
- 2.10 Quality and safety checks of the work are conducted in accordance with job requirements, workplace procedures and community and industry standards

3 Complete work and relevant documentation

- 3.1 Work undertaken is checked for conformance and anomalies and proposed solutions reported to relevant person/s in accordance with workplace procedures
- 3.2 Relevant records, reports and documentation are completed, processed and provided to appropriate person/s in accordance with workplace procedures
- 3.3 Tools, equipment and any surplus resources/materials are cleaned, checked and securely stored and disposed of, if necessary, in accordance with workplace procedures
- 3.4 Work site is rehabilitated/cleaned up and confirmed safe and secure in accordance with workplace procedures
- 3.5 Notification of completion of work and tasks is communicated to relevant stakeholders in accordance with workplace procedures

Foundation Skills

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

Range of Conditions

Range is restricted to essential operating conditions and any other variables essential to the work environment.

Non-essential conditions may be found in the UEG Gas Industry Training Package Companion Volume Implementation Guide.

unplanned events must include at least two of the following:

- gas leaks
- fires
- equipment failure
- damage to equipment

Unit Mapping Information

This is a new unit.

Links

Companion Volume Implementation Guides are found in VETNet -
<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=6a6c032e-ffcb-4f3d-8063-415efbd261e8>

Assessment Requirements for UEGNSG906 Undertake routine hydrogen storage operations

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 and performance criteria on at least two separate occasions and include:

- applying relevant work health and safety (WHS)/occupational health and safety (OHS) requirements, including:
 - emergency response procedures
 - sustainable energy and environmental principles and practices
 - hazard identification and reporting
 - hydrogen specific electrical hazard control measures and earth protection
 - implementation of risk control measures
 - selection and use of correct personal protective equipment (PPE)
 - safely working with hazardous materials and equipment
- communicating with relevant stakeholders, including:
 - authorised persons
 - authorities
 - producers and users
- calibrating instruments used in performing tests and checks
- completing relevant reports and documentation
- complying with regulations, industry standards, legislative requirements, codes of practice, manufacturers' recommendations and specifications, and environmental requirements
- dealing with unplanned events
- following workplace procedures, including:
 - emergency shutdown procedures
 - standard operating procedures
- interpreting relevant drawings, plans and material lists
- isolating systems
- obtaining and complying with relevant work permits
- performing tests and checks, including:
 - corrosion inspections
 - filter checks, including differential pressure

- gas leak test
- meter checks
- pressure and temperature checks
- status and condition checks on ancillary equipment
- visual inspections of relief vents
- planning hydrogen storage operations
- recording relevant information
- shutting down operations and equipment
- using relevant equipment, including:
 - electronic gas detection
 - measuring equipment
 - personal protective equipment (PPE)
- working safely in a hydrogen environment.

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:

- correct use of plant and equipment in a hydrogen environment, including:
 - how to select appropriate equipment for tasks associated with hydrogen
 - manufacturer specifications to make adjustments to parts where appropriate
 - measuring equipment
 - operating alarm and communication equipment
 - operating hydrogen analysis equipment
 - operation, testing and inspecting equipment that includes pressure vessels and associated fitting
 - storage equipment, fitting, piping, and controls
 - test equipment and its uses
- hydrogen storage container pressure and capacity recommendations and limitations
- hydrogen physical and chemical characteristics
- inventory levels
- gas industry drawings, plans and material lists
- permit to work systems in a hydrogen environment
- principles of safe purging
- regulations, industry standards, legislative requirements, codes of practice, manufacturers' recommendations and specifications, and environmental requirements
- relevant safe work method statements (SWMS)/job safety assessments or risk mitigation processes
- relevant stakeholders
- relevant WHS/OHS legislated requirements, including:
 - applicable emergency equipment and procedures

- hazards, risk assessment and control measures
- environmental and sustainable energy principles and practices, including:
 - blue hydrogen
 - brown hydrogen
 - green hydrogen
 - grey hydrogen
- relevant workplace documentation
- quality and safety checks
- relevant workplace policies and procedures
- technical drawings for the hydrogen environment.

Assessment Conditions

Assessors must hold credentials specified within the Standards for Registered Training Organisations current at the time of assessment.

Assessment must satisfy the Principles of Assessment and Rules of Evidence and all regulatory requirements included within the Standards for Registered Training Organisations current at the time of assessment.

Assessment must occur in workplace operational situations where it is appropriate to do so; where this is not appropriate, assessment must occur in simulated workplace operational situations that replicate workplace conditions.

Assessment processes and techniques must be appropriate to the language, literacy and numeracy requirements of the work being performed and the needs of the candidate.

Resources for assessment must include access to:

- a range of relevant exercises, case studies and/or other simulations
- relevant and appropriate materials, tools, equipment and personal protective equipment (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>

AVIW0006 Perform infrastructure inspections using remote operated systems

Modification History

Release 1. This is the first release of this unit of competency in the AVI Aviation Training Package.

Application

This unit involves the skills and knowledge required to operate and manage remote pilot aircraft systems (RPAS) when inspecting infrastructure in compliance with relevant regulatory requirements of the Civil Aviation Safety Authority (CASA) and national operating standards.

Infrastructure includes but is not limited to electricity pylons, gas pipelines, cables, roads and rail infrastructure.

It includes operating and managing RPAS during normal flight, and managing RPAS during abnormal and emergency procedures.

This unit addresses aviation technical skill requirements (physical, mental and task-management abilities) related to equipment and system operations of flight or ground operations personnel and contributes to safe and effective performance in complex aviation operational environments.

Operations are conducted as part of commercial and military aircraft activities across a variety of operational contexts within the Australian aviation industry.

Work is performed independently or under limited supervision within a single-pilot or multi-crew RPAS environment.

Licensing, legislative, regulatory or certification requirements are applicable to this unit.

Pre-requisite Unit

Not applicable.

Competency Field

W – Equipment and Systems Operations

Unit Sector

Not applicable.

Elements and Performance Criteria

ELEMENTS

Elements describe the essential outcomes.

1 Conduct pre-flight actions

PERFORMANCE CRITERIA

Performance criteria describe the performance needed to demonstrate achievement of the element.

- 1.1** Own fitness for flight and planned operations is self-assessed
- 1.2** Operational aircraft type is determined for suitability for type of aerial infrastructure inspection operation
- 1.3** Aircraft and role equipment are checked and assessed for serviceability prior to commencing flight operations
- 1.4** Required applicable maintenance documentation is compiled and checked for accuracy and completeness
- 1.5** Role equipment calibration is checked and adjusted as required
- 1.6** Planned aerial infrastructure inspection operations are assessed for potential or actual hazards
- 1.7** Fuel/power requirements are determined and established within aerial operational plans
- 1.8** Issues relating to aircraft weight, performance, dimensions, load and meteorological conditions are identified and managed

2 Conduct planning and risk management

- 2.1** Suitability of current and forecast weather is determined
- 2.2** Infrastructure inspection plan is developed and used as the basis for aerial application operations
- 2.3** Potential and actual hazards and operational requirements are identified, risks to aerial infrastructure inspection operations are assessed and appropriate risk controls implemented in accordance with the application management plan
- 2.4** Area map is correctly interpreted
- 2.5** Acceptable aircraft performance for aerial infrastructure inspection operational conditions is confirmed through performance planning

	2.6	Normal and abnormal operational communications and signals are confirmed
3	Conduct aerial mapping and modelling	
	3.1	Appropriate aerial survey plans are developed for conducting safe aerial mapping and modelling operations
	3.2	Operating area boundaries are established and environmentally sensitive areas identified, including areas that are noise sensitive, biologically susceptible, populated and urban, and restricted or dangerous
	3.3	Potential emergency or alternate landing areas are identified and/or established for contingency operations
	3.4	Environmental hazard factors affecting aerial mapping and modelling operations are considered
	3.5	Wind velocity and direction are assessed for effect on operations
	3.6	Infrastructure inspection operations is conducted safely in accordance with the application management plan
	3.7	Infrastructure inspection equipment is operated within scope of the plan
	3.8	Decisions to suspend or continue safe aerial infrastructure inspection are taken based on planned or actual operating conditions
	3.9	Power lines within and outside the treatment area during an aerial survey are identified and accurately assessed to support safe operations in vicinity of power lines, including safe flying parallel to wires
4	Perform infrastructure inspections	
	4.1	Infrastructure and condition assessment criteria are verified and understood prior to the inspection
	4.2	Data capture process is selected based on the type of infrastructure
	4.3	Various types of structural failures are recognised and recorded
	4.4	Infrastructure data and records are provided in accordance with client requirements

Foundation Skills

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

Range of Conditions

Range is restricted to essential operating conditions and any other variables essential to the work environment.

Unit Mapping Information

No equivalent unit.

Links

AVI Training Package Companion Volume Implementation Guide available on VET Net: - <https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=4725260a-0af3-4daf-912b-ef1c2f3e5816>

Assessment Requirements for AVIW0006 Perform infrastructure inspections using remote operated systems

Modification History

Release 1. This is the first release of this unit of competency in the AVI Aviation Training Package.

Performance Evidence

Evidence required to demonstrate competence in this unit must be relevant to and satisfy all of the requirements of the elements, performance criteria and range of conditions on at least one occasion and include:

- adapting to differences in equipment and operating environment in accordance with standard operating procedures (SOPs)
- 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
- identifying and correctly using relevant equipment
- implementing contingency plans
- implementing work health and safety (WHS) procedures and relevant regulations
- interpreting and following operational instructions and prioritising work
- interpreting remote pilot aircraft systems (RPAS) displays
- modifying activities depending on workplace contingencies, situations and environments
- monitoring and anticipating operational problems and hazards and taking appropriate action
- monitoring work activities in terms of planned schedule
- operating electronic communications equipment to required protocol
- performing systematic scan technique for monitoring RPAS, sub-systems (equipment) and devices
- reading, interpreting and following relevant regulations, instructions, procedures, information and signs
- reporting and/or rectifying problems, faults or malfunctions promptly in accordance with workplace procedures
- selecting and using required personal protective equipment (PPE) conforming to industry and WHS standards
- undertaking fault finding in RPAS
- using automated systems to manage workload
- working collaboratively with others
- working systematically with required attention to detail without injury to self or others, or damage to goods or equipment.

Knowledge Evidence

Evidence required to demonstrate competence in this unit must be relevant to and satisfy all of the requirements of the elements, performance criteria and range of conditions and include knowledge of:

- aeronautical decision-making processes relevant to RPAS operations
- effective communication
- error management, including error types, causes and consequences
- fatigue risk management
- human factors relevant to RPAS operations
- human performance and its limitations, including the senses, memory and situational awareness
- normal, minimum and maximum fuel pressures or battery/power levels and power draw
- risk identification, analysis and control
- RPAS as applicable to rating/endorsement requirements, including:
 - battery/fuel/power system:
 - use of a schematic diagram of battery/fuel/power system to explain layout and normal operating procedures
 - likely faults that may affect battery/fuel/power system
 - emergency operating procedures for battery/fuel/power system
 - operation of /battery/fuel/power selector panel or display
 - use of cross-feed or power distribution
 - full battery/fuel capacity and fuel grade
 - flight environment information, including :
 - head-up display (HUD) suitable for flight
 - RPAS control systems suitable for flight indications, including height, speed, direction and location
 - electrical system, including:
 - use of a schematic diagram of electrical system to explain type/s of electrical system
 - structural failures
 - likely faults that may affect electrical system
 - emergency operating procedures for electrical system
 - voltage and amperage of battery or power cell
 - number and output of generators
 - methods of circuit protection
 - location of fuses and circuit breakers
 - precautions to be taken when operating electrical devices
 - instruments and displays operated by electrics
 - detection and avoidance systems, including:
 - surveillance and collision avoidance functions of detection and avoidance systems
 - system limitations, selectivity and inhibits

- basic components of detection and avoidance systems
- identification and demonstration of controls or explanation of function of RPAS control station
- detection and avoidance systems visual displays and symbology
- functions of audio alerts and annunciations
- appropriate crew response to multiple detection and avoidance systems events
- recall of radiotelephone procedures following a detection and avoidance system alert
- requirements for a written report of a detection and avoidance systems alert and to whom it must be submitted
- automated systems, including:
 - limitations of automated systems
 - operating procedures for systems, such as flight management system, auto throttle/engine/thrust control, flight director system, automated aircraft navigation systems, and automated engine condition and monitoring system
 - workload management procedures for utilising automated systems
 - warning systems/indicators to identify automated systems failure
- RPAS checklists, including:
 - explanation of the normal system operating procedures of RPAS, sub-systems and devices used to operate specific RPAS, including use of published scans and checklists, immediate action items, warnings and limitations
- stress, workload and time pressure management.

Assessment Conditions

Assessors must hold credentials specified within the Standards for Registered Training Organisations current at the time of assessment.

Assessment must satisfy the Principles of Assessment and Rules of Evidence and all regulatory requirements included within the Standards for Registered Training Organisations current at the time of assessment.

Assessment must occur in workplace operational situations. Where this is not appropriate, assessment must occur in simulated workplace operational situations that reflect workplace conditions.

Assessment processes and techniques must be appropriate to the language, literacy and numeracy requirements of the work being performed and the needs of the candidate.

Resources for assessment must include access to:

- a range of relevant exercises, case studies and/or simulations
- acceptable means of simulation assessment
- applicable documentation, including workplace procedures, regulations, codes of practice and operation manuals
- relevant materials, tools, equipment and PPE currently used in industry.

Links

AVI Training Package Companion Volume Implementation Guide available on VET Net: -
<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=4725260a-0af3-4daf-912b-ef1c2f3e5816>

BSBHRM413 Support the learning and development of teams and individuals

Modification History

Release	Comments
Release 1	This version first released with BSB Business Services Training Package Version 7.0.

Application

This unit describes the skills and knowledge required to determine individual and team development needs and to facilitate the development of the workgroup.

The unit applies to individuals with a broad knowledge of learning and development who apply their skills in addressing development needs to meet team objectives. They may have responsibility to provide guidance or to delegate aspects of tasks to others.

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

Unit Sector

Technical Skills – Human Resources

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
1. Contribute to needs development	1.1 Collect information on performance of team members from relevant sources 1.2 Identify individual and team learning and development needs in line with organisational requirements 1.3 Confirm learning plans meet individual and group training and development needs 1.4 Provide opportunities to individuals to self-evaluate performance and identify areas for improvement
2. Support implementation of	2.1 Develop collaborative learning plans to match skill needs of individuals and groups and match the competency standards

ELEMENT	PERFORMANCE CRITERIA
learning and development	relevant to the industry 2.2 Ensure learning delivery methods are relevant to the participants 2.3 Identify and coordinate workplace learning opportunities to facilitate individual and team achievement of competencies 2.4 Identify and manage resources and timelines relevant for learning activities according to organisational requirements
3. Monitor and evaluate workplace learning	3.1 Monitor learning plans to improve the efficiency and effectiveness of learning 3.2 Seek feedback from individuals or teams to identify and implement improvements in future learning arrangements 3.3 Assess and record outcomes and performance of individuals and teams to determine the effectiveness of development programs and the extent of additional development support 3.4 Document and maintain records and reports of competency according to organisational requirements

Foundation Skills

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

SKILL	DESCRIPTION
Learning	• 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	• Analyses textual information from a range of sources to identify organisational requirements • Analyses information from a range of sources to evaluate performance
Writing	• Develops materials to suit the requirements of different roles and individuals in the organisation • Maintains records using correct technical and organisational vocabulary
Oral Communication	• Uses vocabulary appropriate to context and to establish a supportive and learning environment • Uses listening and questioning techniques to confirm or show understanding of different perspectives • Selects and uses appropriate conventions and protocols when communicating with co-workers in a range of work contexts

SKILL	DESCRIPTION
Self-management	- Recognises and responds to explicit and implicit organisational procedures and protocols - Understands how own role meshes with others and contributes to broader goals
Teamwork	- Recognises the importance of building rapport to establish effective working relationships - Collaborates with others to achieve joint outcomes, playing an active role in facilitating effective group interaction - Negotiates with others to achieve agreeable outcomes playing an active role in facilitating consensus in potentially contentious situations
Problem solving	- Uses logical planning processes to organise, implement and monitor learning and development needs - Systematically gathers and analyses all relevant information and evaluates options to make informed decisions - Evaluates outcomes of decisions to identify opportunities for improvement

Unit Mapping Information

Supersedes and is equivalent to BSBLED401 Develop teams and individuals.

Supersedes but is not equivalent to:

- BSBFLM311 Support a workplace learning environment
- BSBLED301 Undertake e-learning.

Links

Companion Volume Implementation Guide is found on VETNet -

<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=11ef6853-ceed-4ba7-9d87-4da407e23c10>

Assessment Requirements for BSBHRM413 Support the learning and development of teams and individuals

Modification History

Release	Comments
Release 1	This version first released with BSB Business Services Training Package Version 7.0.

Performance Evidence

The candidate must demonstrate the ability to complete the tasks outlined in the elements, performance criteria and foundation skills of this unit, including evidence of the ability to:

- contribute to, facilitate and monitor learning and development for at least one team and for at least one individual.

In the course of the above, the candidate must:

- collect data on team and individual and team development needs
- collaboratively develop learning plans to match skill needs of individuals and groups
- coordinate learning opportunities
- give and receive feedback during the implementation of learning plans
- monitor and review workplace learning plan implementation plans.

Knowledge Evidence

The candidate must be able to demonstrate knowledge to complete the tasks outlined in the elements, performance criteria and foundation skills of this unit, including knowledge of:

- facilitation techniques to support team development and improvement
- organisational policies, plans and procedures for developing teams
- career paths and competency standards relevant to the industry
- key sources of information relevant to inform development needs
- key features of learning and development methods.

Assessment Conditions

Skills in this unit must be demonstrated in a workplace or simulated environment where the conditions are typical of those in a working environment in this industry.

This includes access to:

- learning and development plans, policies and procedures.

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

Links

Companion Volume Implementation Guide is found on VETNet -
<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=11ef6853-ceed-4ba7-9d87-4da407e23c10>

BSBHRM523 Coordinate the learning and development of teams and individuals

Modification History

Release	Comments
Release 1	This version first released with BSB Business Services Training Package Version 7.0.

Application

This unit describes the skills and knowledge required to coordinate the learning and development of teams and individuals. Particular emphasis is on the coordination of strategies to facilitate and promote learning and to monitor and improve learning performance.

The unit applies to individuals who have a role in coordinating the development of a learning environment in which work and learning come together. At this level work will normally be carried out within complex and diverse methods and procedures, which require the exercise of 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

Technical Skills – Human Resources

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
1. Coordinate creation of learning opportunities	1.1 Identify potential formal and informal learning opportunities 1.2 Identify learning requirements of teams and individuals according to requirements of organisation and available learning opportunities 1.3 Coordinate implementation of learning plans and ensure that learning plans reflect diversity of needs 1.4 Review relevant organisational procedures and ensure they

ELEMENT	PERFORMANCE CRITERIA
	support individual and team access to learning opportunities, where required 1.5 Consult with training and development specialists and use their advice to contribute to learning opportunities
2. Coordinate learning	2.1 Coordinate strategies to ensure workplace learning opportunities are used by teams and individuals 2.2 Coordinate implementation of policies and procedures to encourage team members to assess their own competencies and identify their own learning and development needs 2.3 Communicate benefits of learning with others in the team and organisation 2.4 Recognise workplace achievement by relevant recognition, feedback and rewards
3. Monitor and improve learning effectiveness	3.1 Monitor team and individual learning performance to determine type and extent of any additional work-based support required 3.2 Use feedback from individuals and teams to identify and recommend improvements in future learning arrangements 3.3 Suggest adjustments, negotiated with training and development specialists, for improvements to learning 3.4 Record and report learning and development of teams and individuals

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 textual information obtained from a range of sources and determines how content may be applied to individuals and to organisational requirements
Writing	- Uses information from a range of sources to develop and document plans, strategies and feedback according to organisational requirements - Maintains records using correct technical and organisational vocabulary
Oral Communication	- Present information and opinions using language and features appropriate to the audience and context - Uses questioning and listening techniques to identify learning needs and obtain feedback
Initiative and	Recognises and responds to both explicit and implicit organisational procedures and protocols and legislative and regulatory requirements

SKILL	DESCRIPTION
enterprise	Understands how own role meshes with others and contributes to broader goals
Teamwork	- Selects the appropriate form, channel and mode of communication for a specific purpose relevant to own role - 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 - Recognises the importance of building rapport to establish effective working relationships - Applies a range of communication strategies to encourage others to share their knowledge and skills and reflect on the effectiveness of the interaction
Problem solving	- Uses logical processes to plan, implement and monitor learning in the workplace - Systematically gathers and analyses relevant information and evaluates options to make informed decisions
Technology	Uses digital tools to organise, store, integrate and share relevant information

Unit Mapping Information

No equivalent unit. Supersedes but is not equivalent to BSBLED501 Develop a workplace learning environment.

Links

Companion Volume Implementation Guide is found on VETNet -
<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=11ef6853-ceed-4ba7-9d87-4da407e23c10>

Assessment Requirements for BSBHRM523 Coordinate the learning and development of teams and individuals

Modification History

Release	Comments
Release 1	This version first released with BSB Business Services Training Package Version 7.0.

Performance Evidence

The candidate must demonstrate the ability to complete the tasks outlined in the elements, performance criteria and foundation skills of this unit, including evidence of the ability to:

- coordinate learning and development for at least one team and for at least one individual.

In the course of the above, the candidate must:

- liaise with training and development specialists
- recognise workplace achievement by giving feedback, recognition and rewards
- monitor and recommend improvements for workplace learning
- record and report workplace learning outcomes.

Knowledge Evidence

The candidate must be able to demonstrate knowledge to complete the tasks outlined in the elements, performance criteria and foundation skills of this unit, including knowledge of:

- how management of relationships can achieve a learning environment
- principles and techniques involved in the management and organisation of:
 - adult learning
 - coaching and mentoring
 - consultation and communication
 - improvement strategies
 - leadership
 - learning environment and learning culture
 - monitoring and reviewing workplace learning
 - problem identification and resolution
 - record keeping and management methods
 - structured learning
 - work-based learning.

Assessment Conditions

Skills in this unit must be demonstrated in a workplace or simulated environment where the conditions are typical of those in a working environment in this industry.

This includes access to:

- relevant organisational policies and procedures
- workplace equipment and resources relevant to performance evidence.

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

Links

Companion Volume Implementation Guide is found on VETNet -

<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=11ef6853-ceed-4ba7-9d87-4da407e23c10>

BSBINS402 Coordinate workplace information systems

Modification History

Release	Comments
Release 1	This version first released with BSB Business Services Training Package Version 7.0.

Application

This unit describes the skills and knowledge required to implement and review workplace information systems. It involves identification, collection, initial analysis and use of information.

The applies to individuals whose work will normally be carried out within methods and procedures which require planning and evaluation, leadership and guidance of others, and some discretion and judgement.

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

Unit Sector

Technical Skills – Information Services

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
1. Identify and review information needs	1.1 Identify information required by relevant stakeholders 1.2 Review information requirements to determine suitability, accessibility, currency and reliability of information according to organisational policies and procedures
2. Collect, analyse and report information	2.1 Collect information which is adequate and relevant to the requirements of relevant stakeholders 2.2 Confirm information is in a format suitable for analysis, interpretation and distribution 2.3 Analyse information, identify and report relevant trends according to the requirements for which it was collected

ELEMENT	PERFORMANCE CRITERIA
3. Implement information systems	3.1 Implement information systems effectively to store, retrieve and regularly review information for decision making purposes 3.2 Use technology available in the work area to manage information effectively 3.3 Recommend improvements to information system to relevant stakeholders
4. Support information system continuous improvement	4.1 Collect data about information system future needs in consultation with relevant stakeholders 4.2 Confirm identified information system future needs reflect the organisation's business plans 4.3 Assist development of proposals for continuous improvement of information system 4.4 Distribute information to relevant stakeholders on information system changes, where required

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	Critically analyses documentation from a variety of sources and consolidates information
Writing	Develops information for a specific audience using clear and detailed language
Oral Communication	Uses active listening and questioning to convey and clarify information and to confirm understanding
Numeracy	Selects from and uses mathematical strategies to perform initial analysis on information
Planning and organising	Takes responsibility for planning, sequencing and prioritising tasks and own workload for efficiency and effective outcomes
Teamwork	Cooperates with others and contributes to work practices where joint outcomes are expected and deadlines are to be met
Problem solving	Contributes to continuous improvement of current work practices by applying basic principles of analytical thinking
Technology	Uses digital technologies and systems to access, enter, present and distribute information

Unit Mapping Information

Supersedes and is equivalent to BSBINM401 Implement workplace information system.

Links

Companion Volume Implementation Guide is found on VETNet -

<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=11ef6853-ceed-4ba7-9d87-4da407e23c10>

Assessment Requirements for BSBINS402 Coordinate workplace information systems

Modification History

Release	Comments
Release 1	This version first released with BSB Business Services Training Package Version 7.0.

Performance Evidence

The candidate must demonstrate the ability to complete the tasks outlined in the elements, performance criteria and foundation skills of this unit, including evidence of the ability to:

- distribute information to relevant stakeholders in response to three different workplace information needs
- implement and review a workplace information system on at least one occasion.

Knowledge Evidence

The candidate must be able to demonstrate knowledge to complete the tasks outlined in the elements, performance criteria and foundation skills of this unit, including knowledge of:

- key aspects of workplace information systems including:
 - budgets and financial management systems
 - customer information software or records
 - databases
 - product and service information
 - project management software
 - record management systems
 - spreadsheets.

Assessment Conditions

Skills in this unit must be demonstrated in a workplace or simulated environment where the conditions are typical of those in a working environment in this industry.

This includes access to:

- a workplace information system
- organisational policies and procedures.

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

Links

Companion Volume Implementation Guide is found on VETNet -
<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=11ef6853-ceed-4ba7-9d87-4da407e23c10>

BSBINS501 Implement information and knowledge management systems

Modification History

Release	Comments
Release 1	This version first released with BSB Business Services Training Package Version 7.0.

Application

This unit describes the skills and knowledge required to organise training for an information and knowledge management system and to implement the use of the system.

The unit applies to individuals who are responsible for ensuring relevant information and corporate knowledge are retained, accessible and improve business outcomes.

It applies to information and knowledge management systems that 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

Technical Skills – Information Services

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
1. Implement use of management system	1.1 Identify legislative requirements, and organisational policies and procedures 1.2 Implement information and knowledge management system according to legislative requirements and organisational policies and procedures 1.3 Address implementation issues and problems, where required 1.4 Collect information on relevant key performance indicators 1.5 Identify contingencies and refer technical specialist help, where

ELEMENT	PERFORMANCE CRITERIA
	required
2. Organise learning to use management systems	2.1 Identify learning requirements of relevant stakeholders for use of an information and knowledge management system 2.2 Identify and secure resources required for learning activities to use an information and knowledge management system 2.3 Organise and facilitate learning activities 2.4 Promote and support use of the system throughout the organisation 2.5 Monitor and document effectiveness of learning activities
3. Review use of management system	3.1 Analyse effectiveness of system and report on strengths and limitations of the system 3.2 Recommend improvements to information and knowledge management system, where required

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
Writing	Prepares and produces documentation for a specific audience using clear and detailed language to convey explicit information, requirements and recommendations
Oral Communication	- 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
Self-management	Takes responsibility for following policies, procedures and legislative requirements and identifies organisational implications of new legislation or regulation
Teamwork	- 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
Planning and organising	- 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

Skill	Description
Problem solving	Applies systematic and analytical processes to address problems and make decisions in complex situations
Innovation and enterprise	Investigates new and innovative ideas to continuously improve, work practices and processes
Technology	Uses and investigates new digital technologies and applications to manage and manipulate data and communicate effectively with others

Unit Mapping Information

Supersedes and is equivalent to BSBINM501 Manage an information or knowledge management system.

Links

Companion Volume Implementation Guide is found on VETNet -
<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=11ef6853-ceed-4ba7-9d87-4da407e23c10>

Assessment Requirements for BSBINS501 Implement information and knowledge management systems

Modification History

Release	Comments
Release 1	This version first released with BSB Business Services Training Package Version 7.0.

Performance Evidence

The candidate must demonstrate the ability to complete the tasks outlined in the elements, performance criteria and foundation skills of this unit, including evidence of the ability to:

- implement and review one information management system
- implement and review one knowledge management system
- facilitate learning on both these information and knowledge management systems.

In the course of the above, the candidate must:

- identify learning needs and plan and implement learning activities to enable personnel to use information and knowledge management system
- monitor performance and address issues and contingencies as they arise including:
 - accessing technical specialists, as required
 - applying correct policies and procedures for the information or knowledge management system
 - evaluating effectiveness of information or knowledge management system for intended outcomes
- recommend improvements to systems, policies and practices, where required.

Knowledge Evidence

The candidate must be able to demonstrate knowledge to complete the tasks outlined in the elements, performance criteria and foundation skills of this unit, including knowledge of:

- relevant legislation, regulation, standards and codes
- organisational policies and procedures, including those related to:
 - information management
 - knowledge management
- organisational operations and existing data and information systems
- relevant learning activities and key performance indicators.

Assessment Conditions

Skills in this unit must be demonstrated in a workplace or simulated environment where the conditions are typical of those in a working environment in this industry.

This includes access to:

- legislation, regulation, standards and codes relevant to information and knowledge management
- workplace systems, documentation and resources relevant to performance evidence.

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

Links

Companion Volume Implementation Guide is found on VETNet -

<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=11ef6853-ceed-4ba7-9d87-4da407e23c10>

BSBLDR301 Support effective workplace relationships

Modification History

Release	Comments
Release 1	This version first released with BSB Business Services Training Package Version 7.0.

Application

This unit describes the skills and knowledge required to gather information and support effective relationships and networks, with particular regard to communication and representation.

The unit applies to individuals who use leadership skills to support the development of teams and help facilitate communication between team members.

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

Unit Sector

Social Competence – Leadership

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
1. Gather information and ideas	1.1 Identify information on work roles and objectives of work team 1.2 Locate and communicate to work team organisational processes for communication and teamwork 1.3 Establish scope of own role 1.4 Seek contributions for refining ideas and approaches to teamwork and communication according to organisational processes 1.5 Identify and consult with team members on potential work-related issues
2. Develop team relationships and networks	2.1 Encourage communication within team according to organisation's social, ethical and business policies and procedures

ELEMENT	PERFORMANCE CRITERIA
	2.2 Adjust interpersonal styles and methods in relation to the organisation's social and cultural environment 2.3 Identify and use workplace networks to help build relationships 2.4 Identify and describe the value of networks and other work relationships for the team and the organisation
3. Contribute to positive team outcomes	3.1 Identify issues to be rectified within own level of responsibility and according to organisational and legal requirements 3.2 Support colleagues in resolving work difficulties related to own level of responsibility, according to organisational and legal requirements 3.3 Review team outcomes and implement improvements in consultation with relevant personnel 3.4 Contribute constructively to conflict resolution according to organisational policies and processes

Foundation Skills

This section describes language, literacy, numeracy and employment skills incorporated in the performance criteria that are required for competent performance.

SKILL	DESCRIPTION
Reading	Applies textual information to determine regulatory requirements and adhere to job processes and internal policies
Writing	- Uses appropriate language to record key information related to the outcomes of the job - Varies writing style to meet requirements of audience and purpose
Oral Communication	- Speaks clearly using tone and pace appropriate for the audience and purpose - Uses appropriate techniques, including active listening and questioning, to clarify information and to confirm understanding
Initiative and enterprise	Takes personal responsibility for adherence to explicit and implicit organisational policies, procedures, standards and legislative requirements within own job role and in all interactions with others
Teamwork	- Adjusts personal communication style in response to diversity of individuals in the work context - Implements strategies to respond appropriately to conflict and poor work performance
Planning and organising	Takes responsibility for planning, sequencing and prioritising tasks for own workload

Technology	• Uses familiar digital technologies and systems to access, present and communicate information

Unit Mapping Information

Supersedes and is equivalent to BSBFLM303 Contribute to effective workplace relationships.

Supersedes but is not equivalent to BSBEDU302 Assist in resolution of issues and incidents in an international education environment.

Links

Companion Volume Implementation Guide is found on VETNet -

<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=11ef6853-ceed-4ba7-9d87-4da407e23c10>

Assessment Requirements for BSBLDR301 Support effective workplace relationships

Modification History

Release	Comments
Release 1	This version first released with BSB Business Services Training Package Version 7.0.

Performance Evidence

The candidate must demonstrate the ability to complete the tasks outlined in the elements, performance criteria and foundation skills of this unit, including evidence of the ability to:

- support the development of at least one team
- facilitate communication between individuals on at least two occasions.

In the course of the above, the candidate must:

- adjust interpersonal style and communications to respond to cultural and social diversity
- apply relationship management and communication skills with a range of people that:
 - demonstrate integrity, respect, empathy and cultural sensitivity and promote trust
 - forge effective relationships with internal and/or external people and help to maintain these networks
 - encourage participation and foster contribution of and respect for ideas and feedback
 - provide support to colleagues to resolve difficulties
- communicate ideas and information to diverse audiences.

Knowledge Evidence

The candidate must be able to demonstrate knowledge to complete the tasks outlined in the elements, performance criteria and foundation skills of this unit, including knowledge of:

- internal and external sources of information to improve organisational processes
- social and ethical requirements, and organisational policies and procedures relevant to communication
- legislative requirements relevant to communication
- strategies required to adapt communication for diverse audiences
- potential team issues including poor work performance
- examples of how work relationships and the cultural and social environment can support or hinder achieving planned outcomes
- techniques for developing positive work relationships and building trust and confidence in a team

- methods and techniques for communicating information and ideas to a range of stakeholders
- common problem-solving methods
- common methods to resolve workplace conflict
- process for monitoring, analysing and introducing ways to improve work relationships
- value of networks and work relationships for the team and the organisation
- own level of responsibility.

Assessment Conditions

Skills in this unit must be demonstrated in a workplace or simulated environment where the conditions are typical of those in a working environment in this industry.

This includes access to:

- workplace documentation and resources relevant to workplace relationships.

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

Links

Companion Volume Implementation Guide is found on VETNet -

<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=11ef6853-ceed-4ba7-9d87-4da407e23c10>

BSBLDR413 Lead effective workplace relationships

Modification History

Release	Comments
Release 1	This version first released with BSB Business Services Training Package Version 7.0.

Application

This unit describes the skills, knowledge and outcomes required to use leadership to promote team cohesion. It includes motivating, mentoring, coaching and developing the team and forming the bridge between the management of the organisation and team members.

The unit applies to team leaders, supervisors and new or emerging managers where leadership plays a role in developing and maintaining effective workplace relationships. It applies in any industry or community context. At this level work will normally be carried out within routine and non-routine methods and procedures, which require planning, evaluation, leadership and guidance of others.

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

Unit Sector

Social Competence – Leadership

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
1. Prepare to lead workplace relationships	1.1 Identify work team objectives according to organisational strategy 1.2 Collect and analyse information for the achievement of work task 1.3 Share ideas and information with relevant internal and external stakeholders according to work task 1.4 Develop strategy for completion of work task in collaboration with work team

ELEMENT	PERFORMANCE CRITERIA
2. Lead workplace relationships	2.1 Identify and implement methods to facilitate collaboration to complete work task 2.2 Support colleagues experiencing difficulties fulfilling work requirements 2.3 Manage conflict constructively within the organisation's processes and parameters of own role 2.4 Communicate work progress to relevant internal and external stakeholders
3. Review leadership	3.1 Seek feedback on relationship management for work task from relevant stakeholders 3.2 Analyse feedback on relationship management 3.3 Evaluate personal performance in leading workplace relationships 3.4 Identify areas of improvement for leading workplace relationships future work tasks

Foundation Skills

This section describes language, literacy, numeracy and employment skills incorporated in the performance criteria that are required for competent performance.

SKILL	DESCRIPTION
Reading	Collects, analyses and evaluates textual information from a range of resources to inform improvement strategies
Oral Communication	Selects or adjusts communication style to maintain effectiveness of interaction and build and maintain engagement consistent with organisational requirements
Initiative and enterprise	Identifies and follows legislative and organisational requirements relevant to own role
Teamwork	- Selects and uses appropriate conventions and protocols when communicating with diverse stakeholders - Adapts personal communication style to build trust and positive working relationships and to show respect for the opinions, values and particular needs of others - Plays a lead role in situations requiring effective collaboration, demonstrating conflict resolution skills and ability to engage and motivate others
Planning and	Plans and implements activities and processes to manage and review work performance

organising	• Systematically gathers and analyses all relevant information to formulate and evaluate possible solutions to difficulties

Unit Mapping Information

Supersedes and is equivalent to BSBLDR402 Lead effective workplace relationships.

Links

Companion Volume Implementation Guide is found on VETNet -
<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=11ef6853-ceed-4ba7-9d87-4da407e23c10>

Assessment Requirements for BSBLDR413 Lead effective workplace relationships

Modification History

Release	Comments
Release 1	This version first released with BSB Business Services Training Package Version 7.0.

Performance Evidence

The candidate must demonstrate the ability to complete the tasks outlined in the elements, performance criteria and foundation skills of this unit, including evidence of the ability to:

- lead effective workplace relationships on at least four occasions with different individuals or groups.

In the course of the above, the candidate must:

- access and analyse information required to achieve planned outcomes
- collaborate with work team to develop and implement a work task strategy
- apply techniques for resolving problems and conflicts, and dealing with poor performance according to organisational and legislative requirements
- monitor and communicate work progress to relevant internal and external stakeholders
- seek and review feedback to improve workplace leadership.

Knowledge Evidence

The candidate must be able to demonstrate knowledge to complete the tasks outlined in the elements, performance criteria and foundation skills of this unit, including knowledge of:

- considerations for communicating information including audience cultural and social diversity
- consultation processes including internal and external sources of consultees
- impacts of relationships, cultural and social environment, in supporting or hindering the achievement of planned outcomes
- techniques for developing positive work relationships and building trust and confidence in a team, including:
 - interpersonal styles
 - communications
 - consultation
 - cultural and social sensitivity
 - networking

- impact of legislation and organisational policies on workplace relationships
- techniques for communicating information and ideas to a range of stakeholders
- common methods to resolve workplace conflict
- common methods to manage poor work performance
- common methods to monitor, analyse and improve work relationships.

Assessment Conditions

Skills in this unit must be demonstrated in a workplace or simulated environment where the conditions are typical of those in a working environment in this industry.

This includes access to:

- legislation, regulations, standards and codes relevant to performance evidence
- workplace documentation and resources
- interaction with others.

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

Links

Companion Volume Implementation Guide is found on VETNet -

<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=11ef6853-ceed-4ba7-9d87-4da407e23c10>

BSBLDR414 Lead team effectiveness

Modification History

Release	Comments
Release 1	This version first released with BSB Business Services Training Package Version 7.0.

Application

This unit describes the skills, knowledge and outcomes required to lead the performance of a team and to develop team cohesion.

The unit applies team leaders, supervisors and new emerging managers who have an important leadership role in the development of efficient and effective work teams. Leaders at this level also provide leadership for the team and bridge the gap between the management of the organisation and the team members. As such they must 'manage up' as well as manage their team/s.

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

Unit Sector

Social Competence – Leadership

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
1. Plan team outcomes	1.1 Lead team to identify and establish team objectives and work processes 1.2 Support team to document identified objectives and work processes according to organisational processes 1.3 Encourage team members to incorporate innovation and productivity measures in work plans 1.4 Lead and support team members to meet expected outcomes
2. Promote team cohesion	2.1 Provide opportunities for input of team members into planning, decision making and operational aspects of work team

ELEMENT	PERFORMANCE CRITERIA
	2.2 Support team members to take responsibility for own work and to assist each other in undertaking required roles and responsibilities 2.3 Provide feedback to team members on their efforts and contributions 2.4 Address or refer issues, concerns and problems identified by team members 2.5 Model expected behaviours and approaches
3. Supervise team performance	3.1 Encourage team members to participate in and take responsibility for team activities and communication processes 3.2 Support team to identify and resolve problems which impede performance 3.3 Ensure own contribution to work team serves as a role model for others
4. Liaise with management	4.1 Establish open communication with line management 4.2 Communicate information from line management to the team 4.3 Communicate unresolved issues, concerns and problems raised by the team to line management to action 4.4 Communicate issues raised by management to the team to action

Foundation Skills

This section describes language, literacy, numeracy and employment skills incorporated in the performance criteria that are required for competent performance.

SKILL	DESCRIPTION
Writing	Prepares workplace plans that communicate intent and elicits feedback clearly and effectively
Oral communication	Engages in discussions or provides information using structure and language appropriate to the audience and situation
Teamwork	- Selects and uses appropriate conventions and protocols when communicating with team members - Adapts personal communication style to model required behaviours, build trust and positive working relationships and to show respect for the opinions and values of others - Plays a lead role in situations requiring effective collaboration, demonstrating conflict resolution skills and ability to engage and motivate others

Planning and organising	• Develops, implements and monitors plans and processes to ensure team engagement and effectiveness • Uses formal analytical thinking techniques to identify issues and generate possible solutions, seeking input from others, as required

Unit Mapping Information

Supersedes and is equivalent to BSBLDR403 Lead team effectiveness.

Supersedes but is not equivalent to BSBSMB407 Manage a small team.

Links

Companion Volume Implementation Guide is found on VETNet -

<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=11ef6853-ceed-4ba7-9d87-4da407e23c10>

Assessment Requirements for BSBLDR414 Lead team effectiveness

Modification History

Release	Comments
Release 1	This version first released with BSB Business Services Training Package Version 7.0.

Performance Evidence

The candidate must demonstrate the ability to complete the tasks outlined in the elements, performance criteria and foundation skills of this unit, including evidence of the ability to:

- develop a team development plan, that addresses:
 - innovation and productivity measures
 - team cohesion
 - issues management and actions.

In the course of the above, the candidate must:

- apply knowledge of organisational goals, objectives and plans to work tasks
- communicate with team members and management to identify and establish team purpose, roles, responsibilities, goals plans and objectives and resolve problems
- consult, encourage, support and provide feedback to team members
- model team leadership behaviours and approaches.

Knowledge Evidence

The candidate must be able to demonstrate knowledge to complete the tasks outlined in the elements, performance criteria and foundation skills of this unit, including knowledge of:

- work processes, including team purpose, roles, responsibilities, goals and plans
- organisational escalation policies and procedures
- behaviours which enhance organisational image for work team, clients and customers
- processes for setting goals that contribute to team effectiveness
- effects of individual behaviour on team effectiveness
- innovation and productivity measures in work plans
- key features of common leadership styles.

Assessment Conditions

Skills in this unit must be demonstrated in a workplace or simulated environment where the conditions are typical of those in a working environment in this industry.

This includes access to:

- information about the organisation, including organisational structure, goals, objectives and plans.

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

Links

Companion Volume Implementation Guide is found on VETNet -

<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=11ef6853-ceed-4ba7-9d87-4da407e23c10>

BSBLDR522 Manage people performance

Modification History

Release	Comments
Release 1	This version first released with BSB Business Services Training Package Version 7.0.

Application

This unit describes the skills and knowledge required to manage the performance of staff that are direct reports.

The unit applies to individuals who manage people. It covers work allocation and the methods to review performance, reward excellence and provide feedback. 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

Social Competence – Leadership

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
1. Allocate work	1.1 Consult relevant groups and individuals on work to be allocated and resources available 1.2 Develop work plans and allocate work according to organisational requirements and operational plans 1.3 Develop and confirm performance standards and key performance indicators with relevant staff prior 1.4 Conduct risk analysis according to organisational risk management plan and legal requirements
2. Assess performance	2.1 Review performance management and processes according to legislation, organisational objectives and policies

ELEMENT	PERFORMANCE CRITERIA
	2.2 Train participants in the performance management and review process 2.3 Conduct performance management according to organisational policies procedures and relevant timelines 2.4 Monitor and evaluate performance according to performance standards and key performance indicators
3. Provide feedback	3.1 Provide informal feedback and coaching to staff 3.2 Advise relevant personnel, where performance is poor and take necessary actions 3.3 Document feedback according to the organisational performance management system 3.4 Conduct formal structured feedback sessions as necessary and according to organisational policy
4. Manage follow up	4.1 Develop performance improvement and development plans according to organisational policies 4.2 Monitor underperforming individuals according to organisational policies 4.3 Respond to underperforming individuals, as required 4.4 Reinforce excellence in performance through recognition and continuous feedback

Foundation Skills

This section describes language, literacy, numeracy and employment skills incorporated in the performance criteria that are required for competent performance.

SKILL	DESCRIPTION
Learning	Consolidates and improves own knowledge and skills by coaching, mentoring or training others
Reading	Gathers, interprets and analyses texts in organisational documents to facilitate performance management
Writing	Plans and prepares documents for allocating work and managing performance suitable for the target audience and in accordance with organisational requirements
Oral Communication	Uses language and structure appropriate to context and audience to explain expected standards of performance, provide feedback and coach staff
Self-management	Applies legal and regulatory responsibilities related to own work and the organisation as a whole

	• Adheres to organisational policies and procedures
Teamwork	• 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
Planning and organising	• 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 variables impact on performance

Unit Mapping Information

Supersedes and is equivalent to BSBMGT502 Manage people performance.

Supersedes but is not equivalent to:

- BSBMGT404 Lead and facilitate off-site staff
- BSBLS502 Lead and manage a sales team.

Links

Companion Volume Implementation Guide is found on VETNet -

<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=11ef6853-ceed-4ba7-9d87-4da407e23c10>

Assessment Requirements for BSBLDR522 Manage people performance

Modification History

Release	Comments
Release 1	This version first released with BSB Business Services Training Package Version 7.0.

Performance Evidence

The candidate must demonstrate the ability to complete the tasks outlined in the elements, performance criteria and foundation skills of this unit, including evidence of the ability to:

- manage performance of at least two individuals
- manage performance of at least one team.

In the course of the above, the candidate must:

- consult with 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
- assess performance against performance indicators according to performance management and review processes
- monitor, evaluate and provide feedback on performance and provide coaching or training, as needed
- keep records and documentation in accordance with the organisational performance management system
- reinforce excellence in performance through recognition and continuous feedback
- respond to underperforming individuals according to organisational policies, as required.

Knowledge Evidence

The candidate must be able to demonstrate knowledge to complete the tasks outlined in the elements, performance criteria and foundation skills of this unit, including knowledge of:

- legislative and regulatory and organisational requirements for performance management and review
- organisational risk management plan
- organisational human resource support services
- organisational performance measurement systems
- key features of unlawful dismissal rules and due process

- staff development options and information.

Assessment Conditions

Skills in this unit must be demonstrated in a workplace or simulated environment where the conditions are typical of those in a working environment in this industry.

This includes access to:

- legislation on performance management
- workplace documentation and resources for performance management and review.

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

Links

Companion Volume Implementation Guide is found on VETNet -

<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=11ef6853-ceed-4ba7-9d87-4da407e23c10>

BSBOPS301 Maintain business resources

Modification History

Release	Comments
Release 1	This version first released with BSB Business Services Training Package Version 7.0.

Application

This unit describes the skills and knowledge required to determine, administer and maintain resources and equipment to complete a variety of tasks.

The unit applies to those who apply a broad range of competencies in various work contexts. They may exercise discretion and judgement using appropriate theoretical knowledge of business resources and their basic maintenance to provide some technical advice and support to a team.

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

Unit Sector

Business Competence – Business Operations

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
1. Advise on resource requirements	1.1 Calculate current business resource needs according to organisational requirements 1.2 Calculate estimates of future business resource needs according to organisational requirements 1.3 Provide advice on equipment, material and supplier selection 1.4 Identify resource shortages and possible impact on operations
2. Acquire resources	2.1 Obtain resources according to timelines and identified organisational requirements 2.2 Store resources according to identified organisational requirements

ELEMENT	PERFORMANCE CRITERIA
	2.3 Review resource acquisition processes and identify opportunities for improvements in future resource acquisitions
3. Monitor resource usage and maintenance	3.1 Confirm handling of resources is according to organisational and work health and safety requirements 3.2 Identify resource monitoring tool and monitor use of resources 3.3 Consult individuals and teams and facilitate effective decision-making on the appropriate allocation of resources 3.4 Monitor and compare resource usage with estimated requirements in budget plans

Foundation Skills

This section describes language, literacy, numeracy and employment skills incorporated in the performance criteria that are required for competent performance.

Skill	Description
Reading	Identifies and interprets information from a range of sources, including organisational policies and procedures
Writing	Uses clear and succinct language and appropriate layout to provide information, advice and support materials
Oral communication	- Presents information or advice choosing language appropriate to the context and needs of the audience - Uses active listening and questioning to confirm understanding
Numeracy	- Selects and uses appropriate tools to aid with estimation and other resource assessment requirements - Uses a combination of informal and some formal written mathematical equations to represent the outcomes of the resource allocation process
Enterprise and initiative	Takes some personal responsibility for adherence to organisational procedures and protocols
Teamwork	Uses collaborative techniques to engage personnel in consultations and negotiations
Planning and organising	- Plans a range of routine tasks and required resources, accepting goals and aiming to achieve them within allocated timeframes - Evaluates effectiveness of decisions in terms of how well they met stated goals
Problem solving	Identifies and takes responsibility for addressing predictable problems in familiar work contexts

Skill	Description
Technology	- Follows routine procedures for using digital technology to enter, store and retrieve information directly relevant to role - Identifies purpose and some specific functions of some common digital tools used in work contexts

Unit Mapping Information

Supersedes and is equivalent to BSBADM311 Maintain business resources.

Supersedes but is not equivalent to BSBFLM306 Provide workplace information and resourcing plans.

Links

Companion Volume Implementation Guide is found on VETNet -
<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=11ef6853-ceed-4ba7-9d87-4da407e23c10>

Assessment Requirements for BSBOPS301 Maintain business resources

Modification History

Release	Comments
Release 1	This version first released with BSB Business Services Training Package Version 7.0.

Performance Evidence

The candidate must demonstrate the ability to complete the tasks outlined in the elements, performance criteria and foundation skills of this unit, including evidence of the ability to:

- maintain at least three business resources.

In the course of the above, the candidate must:

- collect and record data on resource use
- evaluate use of resources according to organisational requirements
- monitor resource use over defined and operational timeframes
- comply with organisational policies while using resources.

Knowledge Evidence

The candidate must be able to demonstrate knowledge to complete the tasks outlined in the elements, performance criteria and foundation skills of this unit, including knowledge of:

- key provisions of legislation relating to maintaining business resources
- organisational resource acquisition policies, plans and procedures
- organisational requirements for handling resources including:
 - acquiring resources
 - storing resources
- organisational procedures for record keeping and filing systems, security and safe recording practices.

Assessment Conditions

Skills in this unit must be demonstrated in a workplace or simulated environment where the conditions are typical of those in a working environment in this industry.

This includes access to:

- organisational resource use data.

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

Links

Companion Volume Implementation Guide is found on VETNet -
<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=11ef6853-ceed-4ba7-9d87-4da407e23c10>

BSBOPS402 Coordinate business operational plans

Modification History

Release	Comments
Release 1	This version first released with BSB Business Services Training Package Version 7.0.

Application

This unit describes the skills and knowledge required to implement operational plans by planning and acquiring resources, monitoring and adjusting operational performance and providing reports on performance, as required.

The unit applies to individuals who plan activities to achieve team and organisational objectives. At this level, work will normally be carried out within routine and non-routine methods and involve procedures that require planning, evaluation, leadership and guidance of others.

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

Unit Sector

Business Competence – Business Operations

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
1. Prepare to implement operational plan	1.1 Consult with stakeholders to identify resource requirements relevant to operational plan 1.2 Collate, analyse and document details of resource requirements 1.3 Develop operational plan and determine implementation method 1.4 Plan for contingencies 1.5 Develop and present proposals for resource requirements
2. Implement operational plan	2.1 Assist in recruiting and onboarding employees required to implement operational plan according to organisational policies

ELEMENT	PERFORMANCE CRITERIA
	and procedures 2.2 Acquire physical resources and services according to organisational policies and procedures 2.3 Support efficient, cost-effective and safe use of resources 2.4 Adjust implementation of the operational plan in consultation with others to manage contingencies
3. Monitor operational performance	3.1 Collate relevant information and determine operational and productivity performance 3.2 Identify and use key performance indicators (KPIs) and assess operational performance 3.3 Identify unsatisfactory performance and take action to rectify the situation according to organisational policies
4. Review operations based on performance	4.1 Develop recommendations for variation to operational plans 4.2 Present recommendations to the designated persons or groups to gain approval 4.3 Maintain records related to operational performance according to organisational policies and procedures 4.4 Report information on operational performance to management

Foundation Skills

This section describes language, literacy, numeracy and employment skills incorporated in the performance criteria that are required for competent performance.

Skill	Description
Reading	Identifies, interprets, analyses and reviews textual information related to the operational plan and monitoring of operational performance
Writing	- Communicates relationships between ideas and information, matching style of writing to purpose and audience - Researches, plans and prepares workplace documentation for relevant stakeholders using organisational formats
Oral communication	Participates in a variety of spoken exchanges with a range of audiences varying structure and language to suit the audience
Numeracy	Selects and uses familiar mathematical techniques to organise timely supply of adequate resources for the operational plan and to use budgetary information to monitor performance
Enterprise and initiative	Monitors adherence to organisational policies and procedures and considers own role in terms of its contribution to broader goals of the work environment

Skill	Description
Teamwork	• Selects and uses appropriate conventions and protocols when communicating with diverse individuals to build rapport, seek or present information • Collaborates with others to achieve joint outcomes, playing an active role in facilitating effective group communication, influencing direction and taking a leadership role on occasion
Planning and organising	• Takes responsibility for planning, organising, implementing and monitoring tasks required to achieve required outcomes • Evaluates effectiveness of decisions in terms of how well they met stated goals • Identifies and addresses an increasing range of familiar problems by implementing contingency plans

Unit Mapping Information

No equivalent unit. Supersedes but is not equivalent to:

- BSBFLM305 Support operational plan
- BSBMGT402 Implement operational plan.

Links

Companion Volume Implementation Guide is found on VETNet -

<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=11ef6853-ceed-4ba7-9d87-4da407e23c10>

Assessment Requirements for BSBOPS402 Coordinate business operational plans

Modification History

Release	Comments
Release 1	This version first released with BSB Business Services Training Package Version 7.0.

Performance Evidence

The candidate must demonstrate the ability to complete the tasks outlined in the elements, performance criteria and foundation skills of this unit, including evidence of the ability to:

- prepare, implement and review two operational plans.

In the course of the above, the candidate must:

- interact with a range of people and groups to identify resource requirements, performance objectives, systems, procedures and records relating to the operational plan
- plan and acquire physical and human resources using organisation's systems and procedures
- manage and support personnel to achieve performance objectives including facilitating new employee onboarding
- present information and recommendations to support implementation and variation of the operational plan
- monitor operational performance against the performance objectives and budgets and implement improvements to rectify unsatisfactory performance
- vary the operational plan and gain approval to deal with contingencies
- document and provide reports on performance as required by the organisation.

Knowledge Evidence

The candidate must be able to demonstrate knowledge to complete the tasks outlined in the elements, performance criteria and foundation skills of this unit, including knowledge of:

- processes to identify resource requirements
- sources of information to identify resource requirements
- methods to manage contingencies including through consultation with relevant stakeholders
- key features of performance monitoring systems and processes
- common methods for problem solving
- methods to support staff including mentoring, coaching and supervision

- implementation methods for operational plan
- budget and other financial information related to the organisation
- organisational objectives including costs, identified shortfalls and surpluses.

Assessment Conditions

Skills in this unit must be demonstrated in a workplace or simulated environment where the conditions are typical of those in a working environment in this industry.

This includes access to:

- organisational operational plans, policies and procedures relevant to performance evidence
- workplace documentation and resources including budgets
- physical and human resource procurement documentation
- employee onboarding and performance monitoring procedures.

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

Links

Companion Volume Implementation Guide is found on VETNet -
<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=11ef6853-ceed-4ba7-9d87-4da407e23c10>

BSBOPS404 Implement customer service strategies

Modification History

Release	Comments
Release 1	This version first released with BSB Business Services Training Package Version 7.0.

Application

This unit describes the skills and knowledge required to advise, carry out and evaluate customer service strategies.

The unit applies to individuals who have well developed skills and a broad knowledge of customer service strategies for addressing customer needs and problems. Individuals may provide guidance or delegate work related tasks to others.

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

Unit Sector

Business Competence – Business Operations

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
1. Advise on customer service needs	1.1 Identify organisational customer service objectives and customer needs 1.2 Assess and clarify customer requirements 1.3 Identify and diagnose problems with service delivery 1.4 Develop options to improve customer service delivery according to organisational requirements 1.5 Provide recommendations to promote improvement of customer service delivery
2. Support implementation of customer service	2.1 Consult with relevant stakeholders to develop customer service strategies 2.2 Assess customer service strategies and opportunities against

ELEMENT	PERFORMANCE CRITERIA
strategies	customer service objectives 2.3 Identify and allocate available budget resources to fulfil customer service objectives 2.4 Action procedures to resolve customer difficulties and complaints according to organisational requirements
3. Evaluate and report on customer service	3.1 Review stakeholder satisfaction with service delivery according to organisational requirements 3.2 Identify and report changes necessary to meet customer service objectives 3.3 Prepare conclusions and recommendations on future directions of client service strategies 3.4 Monitor systems, records and reporting procedures for changes to customer satisfaction

Foundation Skills

This section describes language, literacy, numeracy and employment skills incorporated in the performance criteria that are required for competent performance.

Skill	Description
Reading	Reviews textual information and comprehends details that relate to the interests or requirements of the client and organisation
Writing	Creates a range of formal texts using structure, grammar and clear and specialised language to describe customer needs, maintain information and support a particular position
Oral communication	Uses pace, intonation, intelligible pronunciation and listening and questioning techniques to interact effectively with others
Numeracy	Recognises and interprets numerical information and performs calculations on familiar mathematical information
Enterprise and Initiative	Recognises and applies organisational protocols and meets expectations associated with own work
Teamwork	- Uses a range of strategies to establish a sense of connection and build rapport with customers - Collaborates with others contributing knowledge and skills to achieve joint outcomes
Planning and organising	- Applies formal and logical processes when planning and implementing tasks - Applies standard procedures when responding to familiar problems

Skill	Description
	within own work context
Technology	• Uses digital technologies to access, organise, present and store information relevant to own role

Unit Mapping Information

Supersedes and is equivalent to BSBCUS401 Coordinate implementation of customer service strategies.

Supersedes but is not equivalent to:

- BSBCUS402 Address customer needs
- BSBCUS403 Implement customer service standards
- BSBSLS408 Present, secure and support sales solutions.

Links

Companion Volume Implementation Guide is found on VETNet -

<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=11ef6853-ceed-4ba7-9d87-4da407e23c10>

Assessment Requirements for BSBOPS404 Implement customer service strategies

Modification History

Release	Comments
Release 1	This version first released with BSB Business Services Training Package Version 7.0.

Performance Evidence

The candidate must demonstrate the ability to complete the tasks outlined in the elements, performance criteria and foundation skills of this unit, including evidence of the ability to:

- develop and implement at least two strategies to improve customer service delivery.

In the course of the above, the candidate must:

- respond to and report on customer feedback and complaints
- review client satisfaction using verifiable data
- consult and communicate effectively with relevant people
- develop and implement strategies and methods to improve customer service delivery, including:
 - budgeting
 - promotion to staff
 - documentation and follow up.

Knowledge Evidence

The candidate must be able to demonstrate knowledge to complete the tasks outlined in the elements, performance criteria and foundation skills of this unit, including knowledge of:

- customer communication techniques
- principles of customer service
- sources of verified client information
- techniques for identifying customer needs and reviewing customer satisfaction
- organisational business structure, products and services related to customer service
- techniques for drawing insights from verifiable evidence to develop recommendations and conclusions
- product and service standards and best practice models.

Assessment Conditions

Skills in this unit must be demonstrated in a workplace or simulated environment where the conditions are typical of those in a working environment in this industry.

This includes access to:

- organisational policies and procedures for customer service
- examples of customer complaints and feedback
- client satisfaction data.

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

Links

Companion Volume Implementation Guide is found on VETNet -

<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=11ef6853-ceed-4ba7-9d87-4da407e23c10>

BSBOPS502 Manage business operational plans

Modification History

Release	Comments
Release 1	This version first released with BSB Business Services Training Package Version 7.0.

Application

This unit describes the skills and knowledge required to develop and monitor the implementation of operational plans to support efficient and effective workplace practices and organisational productivity and profitability.

The unit applies to individuals who manage the work of others and operate within the parameters of a broader strategic and/or business plans.

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

Unit Sector

Business Competence – Business Operations

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
1. Establish operational plan	1.1 Research, analyse and document resource requirements 1.2 Develop operational plan in consultation with, and with approval from, relevant stakeholders 1.3 Develop contingencies for operational plan 1.4 Explain plan to relevant work teams
2. Manage resource acquisition	2.1 Confirm that employees are recruited and inducted according to the organisation's human resources management policies, practices and procedures 2.2 Confirm that physical resources and services are acquired according to the organisation's policies, practices and procedures

ELEMENT	PERFORMANCE CRITERIA
	2.3 Identify and incorporate requirements for intellectual property rights and responsibilities related to acquisition of resources
3. Monitor and review operational performance	3.1 Assess progress of operational plan in achieving profit and productivity plans and targets 3.2 Identify areas of under-performance, recommend solutions and rectify the situation 3.3 Plan and implement relevant processes for ongoing monitoring and confirm that support is provided for individuals and teams 3.4 Negotiate recommendations for variations to operational plans and gain approval from designated persons

Foundation Skills

This section describes language, literacy, numeracy and employment skills incorporated in the performance criteria that are required for competent performance.

Skill	Description
Reading	Gathers, interprets and analyses workplace documentation to determine requirements for the operational plan
Writing	Develops and documents a range of detailed texts relating to the management of an operational plan according to organisational requirements
Oral communication	- Presents information to a range of audiences using appropriate register, vocabulary and paralinguistic features - Listens and comprehends information from a variety of spoken exchanges with clients, co-workers and other stakeholders
Numeracy	Selects and uses mathematical problem-solving strategies to organise resource requirements, performance benchmarks and financial viability of the operational plan
Enterprise and initiative	Monitors adherence to organisational policies, procedures and considers own role in terms of its contribution to broader goals of the work environment
Teamwork	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
Planning and organising	- Takes responsibility for developing and implementing systems and processes to achieve organisational objectives, seeking advice, feedback and support as required to assist in the development and planning phase - Sequences and schedules complex activities, monitors

Skill	Description
	implementation, and manages relevant communication
Problem solving	• Uses systematic analytical processes to aid decision making, identify potential problems and generate contingency plans or solutions
Technology	• Demonstrates awareness of the importance of data security in a digital environment

Unit Mapping Information

Supersedes and is equivalent to BSBMGT517 Manage operational plan.

Links

Companion Volume Implementation Guide is found on VETNet -

<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=11ef6853-ceed-4ba7-9d87-4da407e23c10>

Assessment Requirements for BSBOPS502 Manage business operational plans

Modification History

Release	Comments
Release 1	This version first released with BSB Business Services Training Package Version 7.0.

Performance Evidence

The candidate must demonstrate the ability to complete the tasks outlined in the elements, performance criteria and foundation skills of this unit, including evidence of the ability to:

- manage an operational plan for at least one business or work area.

In the course of the above, the candidate must:

- develop and implement an operational plan using a variety of information sources and consultation including:
 - resource requirements
 - key performance indicators
 - monitoring processes
 - contingency plans
- communicate with stakeholders to explain the plan and supporting information, seek approvals, negotiate variations and engage work teams
- confirm existence of relevant strategies, including strategies relating to:
 - recruiting, inducting and developing personnel
 - acquiring physical resources and services
 - protecting intellectual property
 - making variations to the plan
 - monitoring and documenting performance.

Knowledge Evidence

The candidate must be able to demonstrate knowledge to complete the tasks outlined in the elements, performance criteria and foundation skills of this unit, including knowledge of:

- stakeholders involved in development and management of operations plan including escalation points, colleagues and specialist resource managers
- key information sources for proposal development and presentation including resource requirement specialists

- consultation processes
- content of operational plans, including:
 - procurement processes
 - employee recruitment and induction strategies
 - physical resource and service acquisition strategies
 - key indicators of organisational performance
- budget and actual financial relating to profit and productivity
- methods for preparing operational plans and contingency plans
- role of an operational plan in achieving an organisation's objectives
- procedures and records associated with documenting performance
- approaches for developing key performance indicators to meet business objectives
- legislative and regulatory framework relating to the development and implementation of operational plan of the organisation, including:
 - fair trading laws
 - work health and safety
- organisational policies, practices and procedures that relate to the operational plan.

Assessment Conditions

Skills in this unit must be demonstrated in a workplace or simulated environment where the conditions are typical of those in a working environment in this industry.

This includes access to:

- legislation and regulations relevant to operational plans
- workplace documentation and resources relevant to performance evidence.

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

Links

Companion Volume Implementation Guide is found on VETNet -

<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=11ef6853-ceed-4ba7-9d87-4da407e23c10>

BSBOPS505 Manage organisational customer service

Modification History

Release	Comments
Release 1	This version first released with BSB Business Services Training Package Version 7.0.

Application

This unit describes the skills and knowledge required to develop strategies to manage organisational systems that ensure products and services are delivered and maintained to standards agreed by the organisation.

The unit applies to individuals who supervise customer service provided by others within an organisation. 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

Business Competence – Business Operations

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
1. Establish customer requirements	1.1 Consult with customers to identify customer service requirements 1.2 Integrate customer feedback into organisation's business plan 1.3 Identify and procure resources required to address customer service requirements
2. Deliver quality products and services	2.1 Deliver product and service according to customer specifications within organisation's business plan 2.2 Monitor team performance and assess against the organisation's quality and delivery standards 2.3 Support colleagues to overcome difficulties in meeting

ELEMENT	PERFORMANCE CRITERIA
	customer service standards
3. Evaluate customer service	3.1 Develop and use strategies for monitoring progress against product and service targets and standards 3.2 Develop and use strategies for obtaining customer feedback on provision of product and service 3.3 Adapt delivery of customer product and service in consultation with relevant individuals and groups 3.4 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	Description
Reading	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	Produces a range of text types to convey information, requirements or recommendations matching style of writing to purpose and audience
Oral communication	- Clearly articulates systems and standards in a team environment using language suitable to diverse audiences - Uses listening and questioning techniques to obtain feedback and confirm understanding
Numeracy	Interprets and comprehends mathematical information in organisation's business and customer service plans
Planning and organising	Recognises and applies organisational protocols and meets expectations associated with own work
Teamwork	- 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
Enterprise and initiative	Develops and implements plans using logical processes and monitors and evaluates progress against stated goals
Problem solving	Accepts responsibility for addressing complex or non-routine difficulties, applying problem solving processes in determining a

Skill	Description
	solution
Technology	• Uses digital technology to access, organise and present information in a format that meets requirements

Unit Mapping Information

Supersedes and is equivalent to BSBCUS501 Manage quality customer service.

Supersedes but is not equivalent to:

- BSBCUE504 Integrate customer engagement within the organisation
- BSBCUE601 Optimise customer engagement operations
- BSBCUE602 Manage customer engagement information
- BSBCUE603 Design and launch new customer engagement facilities
- BSBSLS501 Develop a sales plan.

Links

Companion Volume Implementation Guide is found on VETNet -

<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=11ef6853-ceed-4ba7-9d87-4da407e23c10>

Assessment Requirements for BSBOPS505 Manage organisational customer service

Modification History

Release	Comments
Release 1	This version first released with BSB Business Services Training Package Version 7.0.

Performance Evidence

The candidate must demonstrate the ability to complete the tasks outlined in the elements, performance criteria and foundation skills of this unit, including evidence of the ability to:

- develop and review strategy for delivering and monitoring quality customer service for an organisation or work area.

In the course of the above, the candidate must:

- implement quality customer service policies and procedures
- identify and resolve system problems relating to poor customer service
- assist teams to meet customer service requirements
- develop, procure and use human and physical resources to support quality customer service delivery.

Knowledge Evidence

The candidate must be able to demonstrate knowledge to complete the tasks outlined in the elements, performance criteria and foundation skills of this unit, including knowledge of:

- legislative and regulatory frameworks governing customer service
- elements of effective customer service including quality, time and cost
- organisational policies and procedures for customer service and handling customer complaints
- relevant service standards and best practice models
- key principles of public relations and product promotion
- common techniques for solving complaints
- principles and techniques involved in managing:
 - customer behaviour
 - specific customer needs
 - customer research
 - customer relations

- ongoing product and 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

Skills in this unit must be demonstrated in a workplace or simulated environment where the conditions are typical of those in a working environment in this industry.

This includes access to:

- legislation, regulations and codes of practice related to customer service
- workplace documentation and resources
- complex customer complaints.

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

Links

Companion Volume Implementation Guide is found on VETNet -

<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=11ef6853-ceed-4ba7-9d87-4da407e23c10>

BSBPEF301 Organise personal work priorities

Modification History

Release	Comments
Release 1	This version first released with BSB Business Services Training Package Version 7.0.

Application

This unit describes the skills and knowledge required to organise personal work schedules, to monitor and obtain feedback on work performance and to maintain required levels of competence.

The unit applies to individuals who exercise discretion and judgement and apply a broad range of competencies in various work contexts.

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

Unit Sector

Critical Thinking & Problem Solving – Personal Effectiveness

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
1. Organise and complete own work schedule	1.1 Develop work goals and key performance indicators (KPIs) according to task and organisational requirements 1.2 Prioritise workload according to task timeframes 1.3 Identify factors affecting achievement of work objectives 1.4 Develop personal work plans
2. Evaluate own work performance	2.1 Identify variations between expected and actual work performance according to task requirements and KPIs 2.2 Report variations to relevant personnel 2.3 Seek feedback from relevant personnel for solutions to minimise variations in expected and actual work outputs

ELEMENT	PERFORMANCE CRITERIA
	2.4 Research sources of stress and access appropriate supports according to organisational policies and procedures
3. Coordinate personal skill development and learning	3.1 Identify personal and professional development needs for job role 3.2 Identify opportunities to undertake personal skill development activities in consultation with supervisor 3.3 Access professional development opportunities 3.4 Record professional development undertaken for continuous learning and career development process 3.5 Incorporate feedback into review of further learning needs

Foundation Skills

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

Skill	Description
Learning	Employs a range of approaches and investigative techniques to source the knowledge necessary to arrange personal learning experiences
Reading	Interprets textual information to determine organisation's procedures, own work performance and objectives
Writing	Prepares written reports and workplace documents that communicate information clearly and effectively
Oral communication	- Provides and receives feedback using specific and relevant language - Uses listening and questioning techniques to confirm understanding
Numeracy	Complies with organisational policies, procedures and protocols
Teamwork	- Selects the appropriate form, channel and mode of communication for a specific purpose relevant to own role - Proactively collaborates with others to achieve specific goals
Planning and organising	- Plans and organises work commitments to ensure deadlines and objectives are met - Uses formal analytical thinking techniques to recognise and respond to routine problems
Technology	Uses digital systems and tools to enter, store and monitor information

Unit Mapping Information

Supersedes and is equivalent to BSBWOR301 Organise personal work priorities and development.

Links

Companion Volume Implementation Guide is found on VETNet -
<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=11ef6853-ceed-4ba7-9d87-4da407e23c10>

Assessment Requirements for BSBPEF301 Organise personal work priorities

Modification History

Release	Comments
Release 1	This version first released with BSB Business Services Training Package Version 7.0.

Performance Evidence

The candidate must demonstrate the ability to complete the tasks outlined in the elements, performance criteria and foundation skills of this unit, including evidence of the ability to:

- prepare and implement a personal work plan.

In the course of the above, the candidate must:

- prepare a work plan according to organisational requirements and work objectives
- use technology to schedule, prioritise and monitor completion of tasks in a work plan
- assess and prioritise own work tasks and address contingencies
- monitor and assess personal performance against job role requirements by seeking feedback from relevant personnel
- identify personal development needs and access, complete and record skill development and learning.

Knowledge Evidence

The candidate must be able to demonstrate knowledge to complete the tasks outlined in the elements, performance criteria and foundation skills of this unit, including knowledge of:

- organisational policies and procedures relevant to work tasks
- goals, objectives and key performance indicators for task within scope of job role
- methods to elicit, analyse and interpret feedback when communicating with other people in the workplace
- content of work plans including:
 - timeframes
 - tasks requirements
 - risks
 - contingencies for identified risks
- types of personal learning and professional development requirements
- principles and techniques of goal setting, measuring performance and time management

- signs and sources of stress and strategies to deal with stress in the workplace
- methods to identify and prioritise personal learning needs.

Assessment Conditions

Skills in this unit must be demonstrated in a workplace or simulated environment where the conditions are typical of those in a working environment in this industry.

This includes access to:

- challenges and situations to demonstrate application of performance evidence.

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

Links

Companion Volume Implementation Guide is found on VETNet -

<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=11ef6853-ceed-4ba7-9d87-4da407e23c10>

BSBPEF402 Develop personal work priorities

Modification History

Release	Comments
Release 1	This version first released with BSB Business Services Training Package Version 7.0.

Application

This unit describes the skills and knowledge required to plan and prioritise own work tasks. It also addresses the skills and knowledge to monitor and obtain feedback on personal work performance.

The unit applies to individuals who are required to design their own work schedules and work plans and to establish priorities for their work. They will typically hold some responsibilities for the work of others and have some autonomy in relation to their own role.

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

Unit Sector

Critical Thinking & Problem Solving – Personal Effectiveness

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
1. Plan personal work schedule	1.1 Identify task requirements 1.2 Identify own accountabilities in line with task requirements 1.3 Assess barriers for performance of personal accountabilities 1.4 Develop a personal work schedule
2. Implement personal work schedule	2.1 Communicate personal work schedule to relevant personnel 2.2 Monitor own performance according to personal work schedule 2.3 Document variations between expected and actual work performance according to task requirements and communicate to relevant personnel

ELEMENT	PERFORMANCE CRITERIA
3. Review personal work priorities	3.1 Seek and evaluate feedback from relevant stakeholders on own work performance 3.2 Analyse variations between expected and actual work performance 3.3 Update personal work schedule according to internal and external feedback and changes in circumstances

Foundation Skills

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

Skill	Description
Learning	Develops strategies to reflect on own performance and obtain feedback
Reading	Identifies and applies textual information from relevant sources to understand organisation's policies and practices
Writing	Prepares written reports and workplace documentation that communicate complex information clearly and effectively
Numeracy	Analyses numerical information related work accountabilities
Enterprise and initiative	Identifies and understands roles and responsibilities in relation to organisational objectives, policies and procedures
Planning and organising	- Plans, organises and implements tasks to meet organisational requirements - Uses the main features and functions of digital technologies and tools to complete work tasks efficiently and effectively

Unit Mapping Information

Supersedes and is equivalent to BSBWOR404 Develop work priorities.

Supersedes but is not equivalent to:

- BSBSMB408 Manage personal, family, cultural and business obligations
- BSBWOR424 Develop a time management plan.

Links

Companion Volume Implementation Guide is found on VETNet -
<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=11ef6853-ceed-4ba7-9d87-4da407e23c10>

Assessment Requirements for BSBPEF402 Develop personal work priorities

Modification History

Release	Comments
Release 1	This version first released with BSB Business Services Training Package Version 7.0.

Performance Evidence

The candidate must demonstrate the ability to complete the tasks outlined in the elements, performance criteria and foundation skills of this unit, including evidence of the ability to:

- develop, implement and review one personal work schedule.

In the course of the above, the candidate must:

- identify personal responsibilities and barriers to their fulfilment according to task requirements
- prepare a personal work schedule
- communicate work schedule to relevant personnel
- monitor personal work performance to identify variations between expected and actual work performance
- review own work performance against workgroup objectives through self-assessment and seeking and acting on feedback from internal and external stakeholders.

Knowledge Evidence

The candidate must be able to demonstrate knowledge to complete the tasks outlined in the elements, performance criteria and foundation skills of this unit, including knowledge of:

- content of work plans including:
 - resource requirements
 - stakeholder needs
 - workgroup targets
- business technology applications to schedule tasks and plan work
- methods of personal work performance review including:
 - self-assessment
 - feedback from others
- techniques to prepare personal plans and establish priorities
- methods to elicit, analyse and interpret feedback.

Assessment Conditions

Skills in this unit must be demonstrated in a workplace or simulated environment where the conditions are typical of those in a working environment in this industry.

This includes access to challenges and situations to demonstrate the application of performance evidence.

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

Links

Companion Volume Implementation Guide is found on VETNet -

<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=11ef6853-ceed-4ba7-9d87-4da407e23c10>

BSBPPEF501 Manage personal and professional development

Modification History

Release	Comments
Release 1	This version first released with BSB Business Services Training Package Version 7.0.

Application

This unit describes the skills and knowledge required to implement systems and process that support the personal and professional development of self and others.

The unit applies to individuals working in a range of managerial positions who are accountable for the development and performance of others.

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

Unit Sector

Critical Thinking & Problem Solving – Personal Effectiveness

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
1. Manage work goal development	1.1 Document team member responsibilities and identify organisational framework for development of work goals 1.2 Support others to develop work goals, plans and activities that align with their responsibilities 1.3 Assess others' work goals, plans and activities for alignment with organisational goals and provide feedback to team members 1.4 Facilitate access to personal and professional development opportunities that align to team member goals, plans and activities
2. Facilitate achievement of work priorities	2.1 Assess and prioritise personal, team and organisational demands 2.2 Use technology to manage work priorities of the team

ELEMENT	PERFORMANCE CRITERIA
	2.3 Identify and implement techniques to manage team health and wellbeing in the workplace
3. Develop and maintain professional competence	3.1 Document own development needs, priorities and plans using applicable competency standards, where required 3.2 Seek feedback from relevant personnel on own development needs 3.3 Participate in personal and professional development activities that address identified needs, priorities and plans

Foundation Skills

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

Skill	Description
Learning	Investigates and uses a range of strategies to develop personal competence
Reading	Analyses and interprets textual information from organisational policies and practices or feedback to inform personal development planning
Writing	Uses feedback to prepare reports that summarise ways to improve competence
Oral communication	Uses active listening and questioning to seek and receive feedback
Enterprise and Initiative	- Identifies how own role contributes to broader organisational goals - Considers organisational protocols when planning career development of self and others
Teamwork	- Selects and uses appropriate conventions and protocols when communicating with diverse stakeholders - Uses interpersonal skills to establish and build positive working relationships with others
Planning and organising	- Plans and prioritises tasks in order to meet deadlines, manage role responsibilities and to manage own personal welfare - Identifies and uses appropriate technology to improve work efficiency
Technology	Uses technology to manage and prioritise work tasks

Unit Mapping Information

No equivalent unit. Supersedes but is not equivalent to:

- BSBLED503 Maintain and enhance professional practice
- BSBWOR501 Manage personal work priorities and professional development.

Links

Companion Volume Implementation Guide is found on VETNet -

<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=11ef6853-ceed-4ba7-9d87-4da407e23c10>

Assessment Requirements for BSBPEF501 Manage personal and professional development

Modification History

Release	Comments
Release 1	This version first released with BSB Business Services Training Package Version 7.0.

Performance Evidence

The candidate must demonstrate the ability to complete the tasks outlined in the elements, performance criteria and foundation skills of this unit, including evidence of the ability to:

- develop and implement a plan for own personal and professional development
- manage personal and professional development of at least two other individuals.

In the course of the above, the candidate must:

- identify roles and responsibilities of team members
- support two different individuals to develop work goals that align with their role and responsibilities
- facilitate team member access to relevant personal and professional development activities
- use technology to organise and prioritise tasks and commitments of a team or work area
- research and implement techniques for maintaining health and wellbeing of self and others
- develop personal work goals, plans and activities to meet work goals
- measure personal work performance, including assessing competency against competency standards
- participate in personal and professional development activities to develop professional competence.

Knowledge Evidence

The candidate must be able to demonstrate knowledge to complete the tasks outlined in the elements, performance criteria and foundation skills of this unit, including knowledge of:

- roles and responsibilities of team members
- principles and techniques involved in the management or organisation of:
 - performance measurement
 - personal behaviour, self-awareness and personality traits identification
 - personal development plans
 - personal goal setting

- task prioritisation
- common personal and professional development activities relevant to the industry
- technology to plan and prioritise work tasks
- techniques to manage health and wellbeing in the workplace
- organisation's human resources policies and procedures relevant to professional development.

Assessment Conditions

Skills in this unit must be demonstrated in a workplace or simulated environment where the conditions are typical of those in a working environment in this industry.

This includes access to challenges and situations to demonstrate the application of performance evidence.

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

Links

Companion Volume Implementation Guide is found on VETNet -

<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=11ef6853-ceed-4ba7-9d87-4da407e23c10>

BSBSTR301 Contribute to continuous improvement

Modification History

Release	Comments
Release 1	This version first released with BSB Business Services Training Package Version 7.0.

Application

This unit describes the skills and knowledge required to support continuous improvement in an organisation. Particular emphasis is on actively encouraging teams to participate in the process, monitoring and reporting on specified outcomes and supporting opportunities for further improvements.

The unit applies to individuals who use initiative, and organisational and communication skills to influence the ongoing development of the organisation.

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

Unit Sector

Critical Thinking and Problem Solving – Business Strategy

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
1. Coordinate continuous improvement	1.1 Communicate objectives and continuous improvement processes of the organisation to team members 1.2 Establish roles and skills within the team and identify training needs and performance improvement opportunities 1.3 Encourage team members to participate in decision making processes and exercise initiative
2. Monitor and report specified outcomes	2.1 Monitor team progress using systems and technology of the organisation and identify ways planning and operations could be improved 2.2 Report changes to processes and training to relevant

ELEMENT	PERFORMANCE CRITERIA
	stakeholders 2.3 Develop plans, in collaboration with team members, to apply continuous improvement techniques and processes
3. Support opportunities for further improvement	3.1 Communicate recommendations for improvements in achieving organisational objectives to team members 3.2 Monitor work performance and support team members to identify further opportunities for improvement 3.3 Maintain records, reports and recommendations for improvement within the organisation's systems and processes

Foundation Skills

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

SKILL	DESCRIPTION
Learning	Contributes to ongoing organisational improvement by mentoring others to support continuous improvement processes
Reading	Interprets everyday workplace documentation
Writing	Uses appropriate vocabulary and grammatical structures to achieve precise meaning in a range of documentation
Oral communication	- Articulates information in a positive manner using appropriate terminology, tone and style appropriate to context and audience - Uses questioning and listening techniques to exchange and clarify information
Enterprise and initiative	- Identifies the nature and purpose of own role and associated responsibilities and how own role relates to others and contributes to broader work goals - Takes responsibility for adherence to organisational processes and systems
Teamwork	Shares information and resources, offers assistance and facilitates effective group interactions
Planning and organising	- Takes responsibility for routine low-impact decisions within familiar situations - Evaluates effectiveness of decisions in terms of how well they meet stated goals
Technology	Uses a range of digitally based technology and applications to organise, monitor, manage and communicate relevant information effectively

Unit Mapping Information

No equivalent unit. Supersedes but is not equivalent to:

- BSBFLM309 Support continuous improvement systems and processes
- BSBINN201 Contribute to workplace innovation.

Links

Companion Volume Implementation Guide is found on VETNet -

<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=11ef6853-ceed-4ba7-9d87-4da407e23c10>

Assessment Requirements for BSBSTR301 Contribute to continuous improvement

Modification History

Release	Comments
Release 1	This version first released with BSB Business Services Training Package Version 7.0.

Performance Evidence

The candidate must demonstrate the ability to complete the tasks outlined in the elements, performance criteria and foundation skills of this unit, including evidence of the ability to:

- coordinate, monitor and support the continuous improvement of a work task for a team or work area.

In the course of the above, the candidate must:

- identify options and benefits for improvements
- address barriers to continuous improvement
- use analysis work performance to identify improvement opportunities
- use technology to monitor operational progress
- apply recordkeeping processes.

Knowledge Evidence

The candidate must be able to demonstrate knowledge to complete the tasks outlined in the elements, performance criteria and foundation skills of this unit, including knowledge of:

- principles and techniques relating to:
 - continuous improvement systems and processes
 - benchmarking
 - best practice
- benefits and barriers to continuous improvement
- quality approaches that may be implemented in an organisation
- methods that can be used in continuous improvement
- organisational recording, reporting and recommendation processes.

Assessment Conditions

Skills in this unit must be demonstrated in a workplace or simulated environment where the conditions are typical of those in a working environment in this industry.

This includes access to:

- workplace documents and resources relevant to performance evidence.

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

Links

Companion Volume Implementation Guide is found on VETNet -

<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=11ef6853-ceed-4ba7-9d87-4da407e23c10>

BSBSTR401 Promote innovation in team environments

Modification History

Release	Comments
Release 1	This version first released with BSB Business Services Training Package Version 7.0.

Application

This unit describes the skills and knowledge required to identify and implement ways of promoting innovation within team environments in the workplace.

The unit applies to individuals who are team participants or team leaders responsible for playing a proactive role in demonstrating innovation in a formal or informal team environment.

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

Unit Sector

Critical Thinking and Problem Solving – Business Strategy

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
1. Identify opportunities to maximise innovation	1.1 Identify team requirements relating innovation 1.2 Determine team dynamic and own relationship with team 1.3 Assist in evaluating team requirements according to workplace policies and procedures 1.4 Assist in identifying team's current ways of working according to team objectives 1.5 Assist in identifying opportunities in areas for innovation 1.6 Assist in creating processes that allow team members to suggest options for innovation and innovative ideas
2. Organise and agree on effective ways of	2.1 Identify ideas for ways of working better

ELEMENT	PERFORMANCE CRITERIA
working	2.2 Delegate responsibilities across the team, and encourage and reinforce team-based innovation 2.3 Agree and share responsibilities and confirm best use of team strengths and abilities 2.4 Schedule activities that allow time for thinking, challenging and collaboration 2.5 Establish reward and stimulation as an integral part of the team's way of working
3. Support and guide colleagues to promote innovation	3.1 Demonstrate behaviour that supports innovation within team 3.2 Create an environment for staff to proactively share information, knowledge and experiences with other team members 3.3 Dedicate time with team members to challenge and test ideas 3.4 Discuss and explore innovation ideas with other team members
4. Evaluate innovation ideas and promotion	4.1 Identify criteria to review successful innovation in the workplace 4.2 Share innovation successes and examples of successful innovation within own workplace 4.3 Reflect on implemented innovation ideas 4.4 Seek and respond to feedback from relevant stakeholders to generate discussion and identify improvements in promoting innovation 4.5 Discuss with relevant stakeholders the challenges of being innovative 4.6 Document feedback received for improvements in promoting innovation for future activities

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 and analyses textual information, from a wide range of sources, to identify information relevant to team activities
Writing	Uses clear language and formats appropriate for the audience to highlight and present specific information
Oral communication	- Actively participates in verbal exchanges of ideas and elicits the views and opinions of team members by listening and questioning - Uses clear language to clarify rules and roles relating to team

SKILL	DESCRIPTION
	activities in formal and informal situations
Numeracy	Interprets numeric information relevant to team activities
Planning and organising	Selects the appropriate form, channel and mode of communication for a specific purpose relevant to own role
Teamwork	- Uses inclusive techniques to initiate, contribute and promote discussion amongst potentially diverse team members - Recognises the importance of establishing and building effective working relationships
Planning and organising	Plans, sequences and prioritises tasks for efficient and effective outcomes
Problem solving	- Uses problem-solving processes to address less predictable problems, and when appropriate, seeking input from others - Contributes to continuous improvement of current work practices by applying basic principles of analytical and lateral thinking - Reflects on outcomes and further explores own and the team's role in implementing innovation
Initiative and enterprise	Understands the nature and purpose of own role and how it affects others in the work context

Unit Mapping Information

No equivalent unit. Supersedes but is not equivalent to BSBINN301 Promote innovation in a team environment.

Links

Companion Volume Implementation Guide is found on VETNet -
<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=11ef6853-ceed-4ba7-9d87-4da407e23c10>

Assessment Requirements for BSBSTR401 Promote innovation in team environments

Modification History

Release	Comments
Release 1	This version first released with BSB Business Services Training Package Version 7.0.

Performance Evidence

The candidate must demonstrate the ability to complete the tasks outlined in the elements, performance criteria and foundation skills of this unit, including evidence of the ability to:

- on at least two occasions assist a team to create an innovative team environment.

In the course of the above, the candidate must:

- encourage others to contribute to innovation
- identify ways of working
- implement and communicate improvements
- plan and schedule activities
- reflect on activities, feedback and challenges to identify improvement options
- model open and respectful communications
- contribute to the make-up and rules of the team.

Knowledge Evidence

The candidate must be able to demonstrate knowledge to complete the tasks outlined in the elements, performance criteria and foundation skills of this unit, including knowledge of:

- types of innovation and their benefits
- ways of working, including:
 - working hours
 - working spaces
 - agile working
- workplace policies and procedures
- internal and external factors that contribute to a team becoming and remaining innovative, including:
 - team characteristics
 - role of group dynamics and diversity
 - broader environmental factors

- activities that can encourage and hinder innovation in a team, including:
 - allocation of time and activities
 - modelling behaviour
 - rewards and recognition
 - communications
 - feedback.

Assessment Conditions

Skills in this unit must be demonstrated in a workplace or simulated environment where the conditions are typical of those in a working environment in this industry.

This includes access to:

- workplace equipment and resources relevant to performance evidence.

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

Links

Companion Volume Implementation Guide is found on VETNet -

<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=11ef6853-ceed-4ba7-9d87-4da407e23c10>

BSBSTR402 Implement continuous improvement

Modification History

Release	Comments
Release 1	This version first released with BSB Business Services Training Package Version 7.0.

Application

This unit describes the skills and knowledge required to implement continuous improvement of systems and processes of an organisation. It includes using systems and strategies to encourage the team to participate in the process, monitoring and reviewing performance, and identifying opportunities for further improvements.

The unit applies to managers who are responsible for implementing the continuous improvement process to achieve the objectives of the organisation.

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

Unit Sector

Critical Thinking and Problem Solving – Business Strategy

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
1. Identify and plan for improvement	1.1 Identify relevant stakeholders and establish improvements required 1.2 Identify where new systems and processes could be implemented 1.3 Promote team involvement in decision making processes for team systems and processes 1.4 Communicate and agree on new improvement systems and processes with relevant stakeholders 1.5 Manage reports and recommendations for using systems and processes of the organisation

ELEMENT	PERFORMANCE CRITERIA
	1.6 Establish risk review processes
2. Monitor implementation of continuous improvement	2.1 Use workplace systems and technology, and monitor team performance according to organisational policies and procedures 2.2 Implement new systems and processes in consultation with relevant stakeholders 2.3 Maintain new system and processes in consultation with relevant stakeholders 2.4 Identify and resolve system and process issues
3. Evaluate implementation of continuous improvement	3.1 Communicate productivity improvements to relevant stakeholders and confirm their understanding 3.2 Seek and respond to feedback from relevant stakeholders on proposed improvement systems and process 3.3 Review improvement systems and process, and make changes, as required

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	Evaluates and integrates facts and ideas to construct meaning from a range of text types in order to implement continuous improvement systems and processes
Writing	- Selects vocabulary, grammatical structures and conventions appropriate to text - Researches, plans and prepares continuous improvement documentation for required stakeholders
Oral communication	Participates in a variety of spoken exchanges with a range of audiences using structure and language to suit the audience
Initiative and enterprise	- Monitors adherence to organisational policies and procedures and considers own role in terms of its contribution to broader goals of the work environment - Recognises the potential of new approaches to enhance work practices and outcomes - Uses systematic, analytical processes in complex, non-routine situations, setting goals, gathering required information and identifying and evaluating options against agreed criteria

SKILL	DESCRIPTION
Teamwork	• Selects and uses required conventions and protocols when communicating with diverse individuals to seek and share information • Collaborates with others to achieve joint outcomes, playing an active role in facilitating effective group communication, influencing direction and taking a leadership role on occasion
Self-management	• Evaluates effectiveness of decisions in terms of how well they meet stated goals
Technology	• Uses digital applications to access and filter data, extract, organise, integrate and share required information
Planning and organising	• Takes responsibility for planning and organising own workload to achieve required outcomes

Unit Mapping Information

Supersedes and is equivalent to BSBMGT403 Implement continuous improvement.

Supersedes but is not equivalent to:

- BSBCON401 Work effectively in a business continuity context
- BSBMGT406 Plan and monitor continuous improvement.

Links

Companion Volume Implementation Guide is found on VETNet -

<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=11ef6853-ceed-4ba7-9d87-4da407e23c10>

Assessment Requirements for BSBSTR402 Implement continuous improvement

Modification History

Release	Comments
Release 1	This version first released with BSB Business Services Training Package Version 7.0.

Performance Evidence

The candidate must demonstrate the ability to complete the tasks outlined in the elements, performance criteria and foundation skills of this unit, including evidence of the ability to:

- implement at least one continuous improvement system or process in an organisation or work area.

In the course of the above, the candidate must:

- provide support to enable individuals and teams to participate in decisions, take responsibility, show initiative and implement improvement processes
- communicate effectively to support the implementation of improvements and improvement system and processes
- implement, monitor and update improvement plans, processes and procedures to improve performance
- document performance to identify further opportunities for improvement
- manage records and reports in the systems and procedures of the organisation.

Knowledge Evidence

The candidate must be able to demonstrate knowledge to complete the tasks outlined in the elements, performance criteria and foundation skills of this unit, including knowledge of:

- continuous improvement systems and processes
- coaching and mentoring needs to support continuous improvement
- change management techniques that support continuous improvement and initiative
- organisation's systems and data used for benchmarking and monitoring performance for continuous improvement.

Assessment Conditions

Skills in this unit must be demonstrated in a workplace or simulated environment where the conditions are typical of those in a working environment in this industry.

This includes access to:

- workplace documentation and resources relevant to performance evidence.

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

Links

Companion Volume Implementation Guide is found on VETNet -

<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=11ef6853-ceed-4ba7-9d87-4da407e23c10>

BSBSTR501 Establish innovative work environments

Modification History

Release	Comments
Release 1	This version first released with BSB Business Services Training Package Version 7.0.

Application

This unit describes the skills and knowledge required to create an environment that enables and supports practice which focuses on a holistic approach to the integration of innovation across all areas of work practice.

The unit applies to individuals working in leadership or management roles in any industry or community context. The individual could be employed by the organisation, but may also be an external contractor, the leader of a cross organisation team or of a self-formed team of individuals.

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

Unit Sector

Critical Thinking and Problem Solving – Business Strategy

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
Elements describe the essential outcomes.	Performance criteria describe the performance needed to demonstrate achievement of the element.
1. Establish work practices	1.1 Identify relevant stakeholders 1.2 Identify organisational objectives and practices 1.3 Evaluate current work conditions 1.4 Determine working conditions that allow innovative practices according to organisational policies and procedures 1.5 Identify organisational resources relating to innovation 1.6 Build and lead team and maximise opportunities for innovation
2. Create an innovative	2.1 Evaluate the impacts of changing work environment

ELEMENT	PERFORMANCE CRITERIA
environment	2.2 Collaborate with stakeholders and develop ideas for enhancing work environment 2.3 Identify and select resources required for enhancing work environment 2.4 Assess the ability of the workspace to support innovation 2.5 Assist team members to adapt and perform in new work environment
3. Implement innovative work environment	3.1 Encourage creative mindsets, collaborative working and development of positive workplace relationships 3.2 Reinforce the value of innovation according to organisational vision and objectives 3.3 Take risks to open up opportunities for innovation 3.4 Select ways of celebrating and encouraging innovation 3.5 Encourage and support evaluation of innovative ideas
4. Share and evaluate innovative ideas and work environment	4.1 Share relevant information, knowledge and skills on innovative practices with stakeholders 4.2 Provide and encourage formal and informal learning opportunities to develop skills required for innovation 4.3 Create opportunities where individuals can learn from the experience of others 4.4 Seek and respond to suggestions, improvements and innovations from all team members

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 and evaluates information that may deal with complex ideas related to issues both within and outside a given workplace context
Writing	Develops information for others using language to suit the context and audience
Oral communication	- Presents ideas and concepts to a range of audiences using structure and language to suit the audience - Uses active listening and questioning to discuss and clarify information and to confirm understanding
Self-management	Takes responsibility for implementing practices and procedures to achieve organisational objectives in innovation according to role

SKILL	DESCRIPTION
	- requirements • Accepts responsibility for planning and implementing tasks and practices to achieve organisational goals, negotiating key aspects with others and taking into account current capabilities and needs
Initiative and enterprise	• Develops new and innovative ideas through exploration, evaluation, analysis and critical thinking
Teamwork	• Uses required communication techniques to build rapport and foster strong relationships with co-workers in a range of work contexts • Uses inclusive and collaborative techniques to share, promote and convey complex information about new ideas and systems within the workplace • Facilitates a climate where people feel comfortable suggesting and discussing improvements and new ideas
Problem Solving	• Uses problem solving processes to identify, assess and respond to challenges and risks around innovation

Unit Mapping Information

No equivalent unit. Supersedes but is not equivalent to:

- BSBINN501 Establish systems that support innovation
- BSBINN502 Build and sustain an innovative work environment.

Links

Companion Volume Implementation Guide is found on VETNet -

<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=11ef6853-ceed-4ba7-9d87-4da407e23c10>

Assessment Requirements for BSBSTR501 Establish innovative work environments

Modification History

Release	Comments
Release 1	This version first released with BSB Business Services Training Package Version 7.0.

Performance Evidence

The candidate must demonstrate the ability to complete the tasks outlined in the elements, performance criteria and foundation skills of this unit, including evidence of the ability to:

- establish at least two different procedures and practices that foster innovation in areas of work practice, including at least three of the following:
 - collaborative work arrangements
 - building team capacity to contribute to innovation
 - providing formal and informal learning opportunities
 - evaluating ideas of innovation in work environment
 - celebrating and encouraging innovation
 - consulting with relevant stakeholders
 - changing physical work environment, including designing, fitting-out and decorating workspaces
 - communicating and sharing of ideas and feedback.

In the course of the above, the candidate must:

- reinforce the value of innovation to the vision and objectives of the organisation
- model behaviour, including:
 - being receptive to ideas
 - giving constructive advice
 - establishing and maintaining relationships based on mutual respect and trust
 - taking considered risks that provide opportunities for innovation
- support innovation and collaboration of ideas to make improvements.

Knowledge Evidence

The candidate must be able to demonstrate knowledge to complete the tasks outlined in the elements, performance criteria and foundation skills of this unit, including knowledge of:

- concepts and theories of innovation

- context for innovation in the workplace, including:
 - core business values
 - overall objectives
 - broader environmental context
 - value and benefit of innovative ideas and projects
- factors and tools that motivate individuals
- creative thinking and innovative work practices
- ways of celebrating and promoting innovation in the workplace
- approaches to management and leadership and how they support and hinder innovation
- challenges and barriers to innovation and ways of overcoming them, including:
 - rewarding and celebrating innovation
 - coaching and learning
 - modelling behaviour and managing the physical environment.

Assessment Conditions

Skills in this unit must be demonstrated in a workplace or simulated environment where the conditions are typical of those in a working environment in this industry.

This includes access to:

- relevant legislation and codes of practice
- relevant organisational policies and procedures
- workplace equipment and resources.

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

Links

Companion Volume Implementation Guide is found on VETNet -

<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=11ef6853-ceed-4ba7-9d87-4da407e23c10>

BSBSTR502 Facilitate continuous improvement

Modification History

Release	Comments
Release 1	This version first released with BSB Business Services Training Package Version 7.0.

Application

This unit describes the skills and knowledge required to lead and manage continuous improvement systems and processes. Particular emphasis is on the development of systems and the analysis of information to monitor and adjust performance strategies, and to manage opportunities for further improvements.

The unit applies to individuals who take an active role in managing a continuous improvement process in order to achieve an organisation's objectives. At this level, work will normally be carried out using complex and diverse methods and procedures which require the exercise of 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

Critical Thinking and Problem Solving – Business Strategy

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
1. Establish systems and processes	1.1 Identify current systems and processes that facilitate continuous improvement 1.2 Identify and define improvement needs and opportunities for the organisation 1.3 Develop decision-making processes to assist continuous improvement and communicate to relevant stakeholders 1.4 Develop strategies for continuous improvement and encourage

ELEMENT	PERFORMANCE CRITERIA
	team members to participate in decision-making processes 1.5 Develop knowledge management systems to capture team progress, insights and experiences from business activities 1.6 Develop new systems and processes that facilitate continuous improvement according to improvement needs and opportunities 1.7 Establish processes that confirm team members are informed about continuous improvement outcomes
2. Monitor and adjust performance strategies	2.1 Confirm relevant systems and processes meet organisation sustainability requirements 2.2 Confirm team progress, insights and experiences are captured and accessible using knowledge management systems 2.3 Coach individuals and teams to implement and support continuous improvement systems and processes 2.4 Identify and evaluate ways in which planning and operations could be improved 2.5 Make recommendations and communicate strategies to relevant stakeholders
3. Manage opportunities for further improvement	3.1 Evaluate outcomes and identify opportunities for improvement 3.2 Seek feedback from relevant stakeholders on systems and processes 3.3 Identify other areas for improvement and document feedback for future planning

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	- Identifies and extracts required information from a range of complex texts - Locates, interprets and analyses workplace documentation to gather information relating to continuous improvement
Writing	- Develops complex texts related to continuous improvement processes according to organisational requirements - Ensures the vocabulary, grammatical structures and conventions are required for the context and target audience
Oral	Presents information to a range of audiences using appropriate structure and language

SKILL	DESCRIPTION
communication	• Listens and comprehends information from a variety of spoken exchanges with clients, co-workers and other stakeholders • Confirms understanding through questioning and active listening
Initiative and enterprise	• Monitors adherence to organisational policies, procedures and protocols and considers own role in terms of its contribution to broader goals of the work environment • Identifies and uses appropriate conventions and protocols when communicating with colleagues and external stakeholders
Problem solving	• Uses analytical and lateral thinking to review current practices and develop ideas for improvement
Teamwork	• Collaborates with others to achieve joint outcomes, playing an active role in facilitating effective group interaction and influencing direction
Self-management	• Takes responsibility for developing, implementing and monitoring systems and processes to achieve organisational outcomes
Technology	• Reflects on the ways in which digital systems and tools are used, or could be used, to achieve work goals

Unit Mapping Information

Supersedes and is equivalent to BSBMGT516 Facilitate continuous improvement.

Supersedes but is not equivalent to BSBCUE501 Develop business continuity strategy.

Links

Companion Volume Implementation Guide is found on VETNet -

<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=11ef6853-ceed-4ba7-9d87-4da407e23c10>

Assessment Requirements for BSBSTR502 Facilitate continuous improvement

Modification History

Release	Comments
Release 1	This version first released with BSB Business Services Training Package Version 7.0.

Performance Evidence

The candidate must demonstrate the ability to complete the tasks outlined in the elements, performance criteria and foundation skills of this unit, including evidence of the ability to:

- lead and manage continuous improvement systems and processes for at least one organisation or work area.

In the course of the above, the candidate must:

- address organisational sustainability requirements
- incorporate mentoring, coaching and other support to enable individuals to participate in continuous improvement processes
- capture progress, insights and experiences using established knowledge management systems
- encourage participation in decision making processes and ideas for continuous improvement.

Knowledge Evidence

The candidate must be able to demonstrate knowledge to complete the tasks outlined in the elements, performance criteria and foundation skills of this unit, including knowledge of:

- systems and processes facilitating continuous improvement
- common decision-making processes
- organisational policies and procedures relating to digital systems, decision-making processes and continuous improvement systems
- business systems and requirements, including:
 - knowledge management
 - quality
 - sustainability
 - performance management.

Assessment Conditions

Skills in this unit must be demonstrated in a workplace or simulated environment where the conditions are typical of those in a working environment in this industry.

This includes access to:

- workplace documentation and resources relevant to performance evidence
- organisational policies and procedures relevant to performance evidence.

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

Links

Companion Volume Implementation Guide is found on VETNet -

<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=11ef6853-ceed-4ba7-9d87-4da407e23c10>

BSBTWK502 Manage team effectiveness

Modification History

Release	Comments
Release 1	This version first released with BSB Business Services Training Package Version 7.0.

Application

This unit describes the skills and knowledge required to lead teams in the workplace and to actively engage with the management of the organisation.

The unit applies to individuals working at a managerial level who lead and build a positive culture within their work teams. At this level, work will normally be carried out using complex and diverse methods and procedures requiring the exercise of considerable discretion and judgement. It will also involve using a range of problem solving and decision-making strategies.

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

Unit Sector

Social Competence – Teamwork and Relationships

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
1. Establish team performance plan	1.1 Identify team purpose, roles, and responsibilities according to organisational and task objectives 1.2 Develop performance plans with expected outcomes, key performance indicators (KPIs) and goals for work team 1.3 Support team members in meeting expected performance outcomes
2. Develop and facilitate team cohesion	2.1 Develop strategies for facilitating team member input into planning, decision making and operational aspects of team tasks 2.2 Develop or modify policies and procedures for promoting team

ELEMENT	PERFORMANCE CRITERIA
	member accountability for personal work and team tasks 2.3 Provide feedback to team members on team effort and contributions 2.4 Develop processes for identifying and addressing issues, concerns and problems identified by team members
3. Facilitate teamwork	3.1 Encourage team members to participate in and to take responsibility for team activities 3.2 Support the team in identifying and resolving work performance problems 3.3 Promote work team collaboration through individual behaviour
4. Liaise with stakeholders	4.1 Establish and maintain open communication processes with relevant stakeholders 4.2 Communicate information from line management to the team 4.3 Communicate and follow-up unresolved issues, concerns and problems raised by team members with line management 4.4 Address unresolved issues, concerns and problems raised by stakeholders

Foundation Skills

This section describes language, literacy, numeracy and employment skills incorporated in the performance criteria that are required for competent performance.

SKILL	DESCRIPTION
Reading	Analyses and interprets textual information from the organisation's policies, goals and objectives to establish team goals or to determine corrective action
Writing	Prepares workplace documentation that communicates complex information clearly and effectively
Oral Communication	- Engages in discussions or provides information using appropriate vocabulary and non-verbal features - Uses listening and questioning techniques to confirm understanding and to engage the audience
Enterprise and initiative	- Identifies how own role contributes to broader organisational goals - Modifies or develops policies and procedures to achieve organisational goals
Teamwork	- Selects and uses appropriate conventions and protocols when communicating with diverse stakeholders - Uses interpersonal skills to gain trust and confidence of team and

	provides feedback to others in forms that can be understood and used • Adapts personal communication style to build positive working relationships and to show respect for the opinions, values and particular needs of others
Planning and organising	• Develops, implements and monitors plans and processes to ensure team effectiveness • Monitors and actively supports processes and development activities to ensure the team is focused on work outcomes • Plans for unexpected outcomes and implements creative responses to overcome challenges

Unit Mapping Information

Supersedes and is equivalent to BSBWOR502 Lead and manage team effectiveness.

Supersedes but is not equivalent to:

- BSBMGT520 Plan and manage the flexible workforce
- BSBWRK409 Prepare for and participate in dispute resolution.

Links

Companion Volume Implementation Guide is found on VETNet -

<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=11ef6853-ceed-4ba7-9d87-4da407e23c10>

Assessment Requirements for BSBTWK502 Manage team effectiveness

Modification History

Release	Comments
Release 1	This version first released with BSB Business Services Training Package Version 7.0.

Performance Evidence

The candidate must demonstrate the ability to complete the tasks outlined in the elements, performance criteria and foundation skills of this unit, including evidence of the ability to:

- manage the effectiveness of at least one work team.

In the course of the above, the candidate must:

- provide feedback to encourage, value and reward others
- model desired behaviour and practices
- encourage and foster shared understanding of purpose, roles and responsibilities
- support team to meet expected performance outcomes including providing formal and informal learning opportunities as needed
- develop performance plans with key performance indicators (KPIs), outputs and goals for individuals or the team which incorporate input from stakeholders
- communicate effectively with a range of stakeholders about team performance plans and team performance
- evaluate and take necessary corrective action regarding unresolved issues, concerns and problems raised by internal or external stakeholders.

Knowledge Evidence

The candidate must be able to demonstrate knowledge to complete the tasks outlined in the elements, performance criteria and foundation skills of this unit, including knowledge of:

- impacts of group dynamics on team performance
- methods of establishing team activities including communication processes
- strategies that can support team cohesion, participation and performance
- strategies for gaining consensus
- issue resolution strategies.

Assessment Conditions

Skills in this unit must be demonstrated in a workplace or simulated environment where the conditions are typical of those in a working environment in this industry.

This includes access to:

- workplace documents relevant to team task objectives.

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

Links

Companion Volume Implementation Guide is found on VETNet -

<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=11ef6853-ceed-4ba7-9d87-4da407e23c10>

BSBWHS308 Participate in WHS hazard identification, risk assessment and risk control processes

Modification History

Release	Comments
Release 1	This version first released with BSB Business Services Training Package Version 5.0.

Application

This unit describes the skills and knowledge required to participate in the processes of work health and safety (WHS) hazard identification, risk assessment and risk control. It includes participating in worker consultation and support to contribute to a healthy and safe workplace.

The unit applies to those who assist with identifying workplace hazards and assessing and controlling WHS risks as part of their WHS responsibilities, which are in addition to their main duties.

NOTES

1. The terms ‘occupational health and safety’ (OHS) and ‘work health and safety’ (WHS) are equivalent, and generally either can be used in the workplace. In jurisdictions where *model WHS laws* have not been implemented, registered training organisations (RTOs) are advised to contextualise this unit of competency by referring to existing WHS legislative requirements.
2. The *model WHS laws* include the model WHS Act, model WHS Regulations and model WHS Codes of Practice. See Safe Work Australia for further information.

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

Unit Sector

Regulation, Licensing and Risk – Work Health and Safety

Elements and Performance Criteria

ELEMENTS	PERFORMANCE CRITERIA

ELEMENTS	PERFORMANCE CRITERIA
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
1. Participate in WHS hazard identification in the workplace	1.1 Participate in selecting hazard identification methods for the workplace according to organisational policies and procedures 1.2 Use selected methods to identify, report and record hazards according to organisational policies and procedures, standards and WHS laws 1.3 Provide information and assistance to required personnel during hazard identification process
2. Participate in WHS risk assessment	2.1 Participate in selecting suitable risk assessment methods for the workplace according to organisational policies and procedures 2.2 Assess and record risks using selected methods according to organisational procedures, standards and WHS laws 2.3 Provide information and assistance to required personnel during risk assessment process
3. Contribute to developing and implementing WHS control measures	3.1 Obtain organisation records of the outcomes of hazard identifications and risk assessments, and use them to participate in developing risk control options 3.2 Identify duty holders according to WHS laws and organisational WHS policies, procedures, processes and systems 3.3 Participate in selecting risk control options using criteria agreed to by work team, and according to organisational policies, procedures, processes and systems 3.4 Identify and report factors impeding successful implementation of selected risk control options to determine potential control measures to be implemented 3.5 Review and document potential control measures for compliance with relevant WHS laws 3.6 Contribute to developing a risk control implementation plan according to the hierarchy of control measures 3.7 Provide written information to individuals and duty holders to facilitate implementation of reviewed control measures
4. Contribute to consultative arrangements for hazard	4.1 Assist engaging work team in hazard identification and risk assessment according to organisational WHS

ELEMENTS	PERFORMANCE CRITERIA
identification and risk assessment activities	consultation and participation policies, procedures and processes 4.2 Respond to issues raised according to organisational procedures and processes 4.3 Develop plan to encourage others to participate in hazard identification and risk assessment activities, according to organisational policies and procedures
5. Contribute to consultative arrangements for implementing control measures	5.1 Assist with implementing consultative processes that engage work team in developing and implementing control measures, according to organisational WHS consultation and participation policies, procedures and processes 5.2 Respond to issues raised according to organisational policies and procedures for issue resolution 5.3 Promote worker participation in arrangements for implementing control measures

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 and identifies information from WHS laws, workplace policies, procedures and records
Writing	Uses structure and language appropriate to audience and context in plans, reports and general advice
Oral communication	- Presents information and assistance using appropriate industry-specific vocabulary - Uses listening and questioning to clarify and confirm understanding
Navigate the world of work	- Follows regulatory responsibilities, and organisational policies and procedures in relation to WHS responsibilities - Keeps up to date with changes to WHS laws, and organisational policies and procedures relevant to own role
Interact with others	- Identifies what to communicate and to whom in a range of contexts - Cooperates with others as part of WHS activities and contributes to specific activities requiring joint responsibility and accountability - Shares information and resources, offers assistance voluntarily and provides feedback when requested

Skill	Description
	Plays an active role in group discussions, paying attention to perspectives of others and encouraging participation
Get the work done	- Plans and implements tasks to achieve required outcomes - Uses decision-making processes, setting or clarifying goals, gathering information and identifying and evaluating choices against a set of criteria in the WHS risk-management process

Unit Mapping Information

Supersedes and is equivalent to BSBWHS303 Participate in WHS hazard identification, risk assessment and risk control.

Links

Companion Volume Implementation Guides are available from VETNet -
<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=11ef6853-ceed-4ba7-9d87-4da407e23c10>

Assessment Requirements for BSBWHS308 Participate in WHS hazard identification, risk assessment and risk control processes

Modification History

Release	Comments
Release 1	This version first released with BSB Business Services Training Package Version 5.0.

Performance Evidence

The candidate must demonstrate the ability to complete the tasks outlined in the elements, performance criteria and foundation skills of this unit and, on at least two occasions, to:

- participate in selecting and using required methods to identify, report and record hazards
- assess and record risks for identified hazards
- promote and support worker consultation and participation in hazard identification and risk assessment
- participate in developing, selecting and implementing risk control options and plans for identified hazards.
-

Knowledge Evidence

The candidate must demonstrate knowledge to complete the tasks outlined in the elements, performance criteria and foundation skills of this unit. This includes knowledge of:

- work health and safety (WHS) legislative requirements, regulations, codes of practice and standards relating to:
 - WHS hazard identification, risk assessment and risk control
 - WHS hazard communication, consultation and participation
 - identifying duty holders
 - recordkeeping
 - specific hazard identification, risk assessment and control methods
- internal and external sources of WHS information and data, and procedures for accessing them
- concept of hazards, risks and risk factors
- basic principles of incident causation and injury processes
- WHS organisational policies and procedures relating to identifying hazards, and assessing and controlling risks:

- WHS hazards that may be present in the workplace, the harm they can cause and how this harm occurs
- types of hazard and risk registers
- responding to WHS issues, including risk control options for different hazards and work situations, and suitable risk assessment methods
- workplace communication processes for reporting and recording, and plans for sharing information about hazard identification, risk assessment and risk control.
-

Assessment Conditions

Assessment must comply with WHS laws, and WHS legal responsibilities and duty of care required for this unit. It must be conducted in a safe environment where evidence gathered demonstrates consistent performance of typical activities undertaken by individuals carrying out WHS duties in the workplace, and must include access to:

- organisational policies, standard operating procedures and plans required for the performance evidence
- WHS laws relevant to hazard identification, risk assessment and risk control
- relevant WHS data files
- opportunities for interaction with others
- workplace equipment and resources required to demonstrate the performance evidence.

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

Links

Companion Volume Implementation Guides are available from VETNet -
<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=11ef6853-ceed-4ba7-9d87-4da407e23c10>

BSBWHS311 Assist with maintaining workplace safety

Modification History

Release	Comments
Release 1	This version first released with BSB Business Services Training Package Version 7.0.

Application

This unit describes the skills and knowledge required to assist with implementing and monitoring an organisation's work health and safety (WHS) policies, procedures and programs as part of a small work team.

The unit applies to individuals who have roles in assisting with maintaining workplace safety in an organisation. Individuals closely monitor aspects of work associated with the safe delivery of products and services, and they contribute to influencing safety in the workplace.

NOTES

1. The terms 'occupational health and safety' (OHS) and 'work health and safety' (WHS) are equivalent, and generally either can be used in the workplace. In jurisdictions where *model WHS laws* have not been implemented, registered training organisations (RTOs) are advised to contextualise this unit of competency by referring to existing WHS legislative requirements.

2. The *model WHS laws* include the model WHS Act, model WHS Regulations and model WHS Codes of Practice. See Safe Work Australia for further information.

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

Unit Sector

Regulation, Licensing and Risk – Work Health and Safety

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
<i>Elements describe the</i>	<i>Performance criteria describe the performance needed to</i>

ELEMENT	PERFORMANCE CRITERIA
<i>essential outcomes.</i>	<i>demonstrate achievement of the element.</i>
1. Assist with incorporating WHS policies and procedures into work team processes	1.1 Identify health and safety requirements of work team according to applicable WHS laws 1.2 Assist with explaining organisational WHS policies, procedures, programs and legislative requirements to required personnel 1.3 Assist with explaining hazard identification and risk assessment outcomes to required personnel
2. Contribute to consultative arrangements for managing WHS	2.1 Assist with implementing consultative processes designed to engage work team in managing WHS 2.2 Respond to WHS issues in a timely manner and according to organisational policies and procedures for issue resolution 2.3 Encourage others to participate in arrangements for managing WHS 2.4 Assist in engaging with required personnel to identify and implement improvements in response to WHS feedback
3. Contribute to organisational procedures for providing WHS training	3.1 Identify WHS training needs of the work team and report to relevant stakeholders 3.2 Identify strategies and opportunities for developing work team's WHS competence and report to relevant stakeholders 3.3 Provide assistance to work team members to support the effective development of their WHS competence
4. Participate in identifying hazards, and assessing and controlling risks for the work area	4.1 Identify hazards in the work area and report to relevant stakeholders according to organisational policies and procedures, and WHS legislative requirements 4.2 Assist with implementing processes designed to control risks using the hierarchy of control measures according to organisational procedures and WHS legislative requirements 4.3 Identify and document inadequacies in existing risk control measures according to organisational policies and procedures, the hierarchy of control measures and WHS legislative requirements 4.4 Report inadequacies in existing risk control measures to relevant stakeholders 4.5 Complete and maintain WHS incident records in the work area according to organisational procedures and WHS legislative requirements

Foundation Skills

This section describes language, literacy, numeracy and employment skills incorporated in the performance criteria that are required for competent performance.

Skill	Description
Reading	• Interprets WHS legislative and organisational documentation • Applies appropriate strategies to construct meaning from WHS legislative and organisational documentation
Writing	• Documents WHS information using required format and industry specific vocabulary
Oral communication	• Presents information using language and non-verbal communication appropriate to audience and context • Uses questioning and active listening to confirm understanding
Navigate the world of work	• Follows WHS policies, procedures and legislative requirements relevant to own role • Keeps up to date with changes to WHS laws relevant to own role
Interact with others	• Selects appropriate communication protocols and conventions to provide information to others • Collaborates with others to achieve joint outcomes • Plays an active role in facilitating effective group interaction, influencing direction and taking a leadership role on occasion • Provides feedback to others in forms with which they can engage and respond
Get the work done	• Sequences and schedules activities, monitors implementation and manages relevant communication • Initiates standard procedures when responding to issues raised through consultation • Uses feedback to participate in the identification and implementation of opportunities to improve arrangements for managing WHS issues

Unit Mapping Information

Supersedes and is equivalent to BSBWHS301 Maintain workplace safety.

Links

Companion Volume Implementation Guide is found on VETNet -

<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=11ef6853-ceed-4ba7-9d87-4da407e23c10>

Assessment Requirements for BSBWHS311 Assist with maintaining workplace safety

Modification History

Release	Comments
Release 1	This version first released with BSB Business Services Training Package Version 7.0.

Performance Evidence

The candidate must demonstrate the ability to complete the tasks outlined in the elements, performance criteria and foundation skills of this unit, and to:

- assist with implementing and monitoring at least three different organisational work health and safety (WHS) policies or procedures into a work team's processes.

During the above, the candidate must:

- assist with implementing and monitoring consultation about each policy or procedure according to legislative and organisational requirements
- identify opportunities to encourage work team to contribute to implementing improvements to each policy or procedure based on feedback received through consultation
- complete WHS documentation.

Knowledge Evidence

The candidate must demonstrate knowledge to complete the tasks outlined in the elements, performance criteria and foundation skills of this unit. This includes knowledge of:

- characteristics and composition of the work team
- procedures related to the following:
 - identifying hazards
 - assessing and controlling risks to health and safety, including the hierarchy of control measures
- organisational WHS policies and procedures, including those relating to:
 - risk management
 - fire
 - emergencies
 - evacuation
 - incident investigation

- reporting
- relevant legislation, regulations and codes of practice from all levels of government that impact on business operations, including those relating to:
 - WHS and environmental issues
 - equal opportunity
 - industrial relations
 - anti-discrimination
- WHS aspects of other organisational systems and procedures.

Assessment Conditions

Assessment must comply with WHS laws, and WHS legal responsibilities and duty of care required for this unit. It must be conducted in a safe environment where evidence gathered demonstrates consistent performance of typical activities undertaken by individuals carrying out WHS duties in the workplace, and include access to:

- safety processes relevant to the area of work
- organisational policies and procedures, standard operating procedures and plans
- standards, WHS laws and licensing requirements
- opportunities for interaction with others
- workplace equipment and resources required for the performance evidence.

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

Links

Companion Volume Implementation Guide is found on VETNet -
<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=11ef6853-ceed-4ba7-9d87-4da407e23c10>

BSBWHS521 Ensure a safe workplace for a work area

Modification History

Release	Comments
Release 1	This version first released with BSB Business Services Training Package Version 5.0.

Application

This unit describes the skills and knowledge required to establish, maintain and evaluate an organisation's work health and safety (WHS) policies, procedures and programs in a work area to ensure a safe workplace, according to WHS legislative requirements. It takes a systems approach and addresses compliance with relevant legislative requirements.

The unit applies to those working in a range of contexts who have, or are likely to have, responsibility for WHS as part of their broader management role. It is relevant for people with obligations under WHS laws, for example persons conducting a business or undertaking (PCBUs) or officers, as defined by WHS laws.

NOTES

1. The terms 'occupational health and safety' (OHS) and 'work health and safety' (WHS) are equivalent, and generally either can be used in the workplace. In jurisdictions where *model WHS laws* have not been implemented, registered training organisations (RTOs) are advised to contextualise this unit of competency by referring to existing WHS legislative requirements.

2. The *model WHS laws* include the model WHS Act, model WHS Regulations and model WHS Codes of Practice. See Safe Work Australia for further information.

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

Unit Sector

Regulation, Licensing and Risk – Work Health and Safety

Elements and Performance Criteria

ELEMENTS	PERFORMANCE CRITERIA

ELEMENTS	PERFORMANCE CRITERIA
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
1. Establish a WHS management system in a work area	1.1 Locate, adapt, adopt and communicate WHS policies that define the organisation's commitment to complying with WHS laws 1.2 Identify duty holders and define WHS responsibilities for all workplace personnel in the work area according to WHS laws, policies, procedures and programs 1.3 Identify and approve financial and human resources required by the WHS management system (WHSMS) according to organisational procedures
2. Establish and maintain effective and compliant consultative arrangements for managing WHS in a work area	2.1 Work with required personnel to set up and maintain consultative arrangements according to required WHS laws 2.2 Resolve issues raised through participation and consultation arrangements according to required WHS laws and organisational protocols 2.3 Provide information about consultation and participation outcomes to required personnel according to organisational policies and procedures
3. Establish and maintain procedures for effectively identifying hazards, and assessing and controlling risks in work area	3.1 Develop procedures for ongoing hazard identification, and assessment and control of associated risks 3.2 Include hazard identification at the planning, design and evaluation stages of any workplace change to ensure that new hazards are not created by proposed changes and existing hazards are controlled 3.3 Develop and maintain procedures for selecting and implementing risk controls according to the hierarchy of control measures and WHS legislative requirements 3.4 Identify inadequacies in existing risk controls according to the hierarchy of control measures and WHS legislative requirements, and promptly provide resources to enable implementation of new measures 3.5 Identify requirements for expert WHS advice, and request this advice as required, according to organisational procedures
4. Evaluate and maintain a work area WHS management system	4.1 Develop and provide a WHS induction and training program for required personnel in a work area as part of

ELEMENTS	PERFORMANCE CRITERIA
(WHSMS)	organisation's training program 4.2 Use a system for WHS recordkeeping to allow identification of patterns of occupational injury and disease in the organisation, and to maintain a record of WHS decisions made, including reasons for decisions 4.3 Measure and evaluate the WHSMS according to organisation's quality systems framework 4.4 Develop and implement improvements to WHSMS to achieve organisational WHS objectives according to organisational procedures 4.5 Ensure compliance with WHS legislative framework to achieve, as a minimum, WHS legal requirements

Foundation Skills

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

Skill	Description
Reading	Organises, evaluates and critiques ideas and information from WHS laws, policies, procedures and programs
Writing	- Produces WHS policies, procedures and programs using appropriate vocabulary, grammatical structure and conventions - Records WHS decisions according to organisational requirements
Oral communication	- Presents and seeks information from others using structure and language suitable for the audience - Provides information about WHS policies and procedures and on resolution of WHS issues, varying the level of technical vocabulary to suit the audience
Numeracy	Selects from, and applies, an expanding range of mathematical and problem-solving strategies in identifying financial and human resources required to support WHS requirements
Navigate the world of work	- Monitors adherence to legal and regulatory rights and responsibilities for self and others in relation to WHS - Develops, implements and reviews WHS-related policies, procedures and processes according to legislative and organisational requirements
Interact with others	Plays a lead role in situations requiring effective collaboration, demonstrating the ability to guide discussions and negotiate

Skill	Description
	agreeable outcomes • Provides feedback to others in forms they can understand and use
Get the work done	• Develops plans or processes to manage relatively complex WHS management tasks, with an awareness of how they contribute to operational and strategic goals • Uses systematic and analytical processes, setting goals, gathering relevant information, and identifying and evaluating options against agreed criteria • Considers whether, and how, others should be involved, using consultative or collaborative processes as an integral part of the decision-making process • Uses digital systems and tools to enter, store and retrieve relevant information

Unit Mapping Information

Supersedes and is equivalent to BSBWHS501 Ensure a safe workplace.

Links

Companion Volume Implementation Guides are available from VETNet -
<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=11ef6853-ceed-4ba7-9d87-4da407e23c10>

Assessment Requirements for BSBWHS521 Ensure a safe workplace for a work area

Modification History

Release	Comments
Release 1	This version first released with BSB Business Services Training Package Version 5.0.

Performance Evidence

The candidate must demonstrate the ability to complete the tasks outlined in the elements, performance criteria and foundation skills of this unit, and to:

- establish, implement, maintain and evaluate one work health and safety management system (WHSMS) for a work area of an organisation that complies with WHS laws, and organisational policies and procedures.

During the above, the candidate must:

- establish, implement, maintain and evaluate effective and compliant consultative arrangements for managing WHS, including:
 - identifying duty holders
 - identifying and approving required resources
 - developing and implementing a training program
- establish, implement, maintain and evaluate procedures for effectively identifying hazards, and assessing and controlling risks using the hierarchy of control measures.
-

Knowledge Evidence

The candidate must demonstrate the knowledge to complete the tasks outlined in the elements, performance criteria and foundation skills of this unit. This includes knowledge of:

- details of relevant WHS laws relating to ensuring a safe workplace
- WHS organisational policies, procedures, programs and practices required for the performance evidence
- hazard identification and risk-management processes
- key principles, uses and components of the hierarchy of control measures and procedures for applying it in the workplace
- organisational and WHS legislative reporting requirements.
-

Assessment Conditions

Assessment must comply with WHS laws, legal responsibilities and duty of care required for this unit. It must be conducted in a safe environment where evidence gathered demonstrates consistent performance of typical activities undertaken by individuals carrying out WHS duties in the workplace, and must include access to:

- organisational WHS policies and procedures required to demonstrate the performance evidence
- WHS laws required to demonstrate the performance evidence
- case studies and, where possible, real situations
- opportunities for interaction with others.

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

Links

Companion Volume Implementation Guides are available from VETNet -
<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=11ef6853-ceed-4ba7-9d87-4da407e23c10>

BSBXTW301 Work in a team

Modification History

Release	Comments
Release 2	This version first released with BSB Business Services Training Package Version 5.0. Version created to rectify typographical error
Release 1	This version first released with BSB Business Services Training Package Version 4.0.

Application

This unit describes the skills and knowledge required to work effectively as part of permanent or project based teams in a workplace within an industry.

This unit applies to a wide range of workers, but has a specific focus on the teamwork skills required for workers with limited responsibility for others.

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

Unit Sector

Cross Sector Skill

Elements and Performance Criteria

Elements	Performance Criteria
Elements describe the essential outcomes.	Performance criteria describe the performance needed to demonstrate achievement of the element.
1. Identify individual work tasks within a team	1.1 Identify own responsibilities according to organisational policies and procedures 1.2 Identify own role and task requirements within team 1.3 Articulate team structure and roles of other team members 1.4 Plan and prioritise own tasks according to given time frames and

	team requirements
2. Contribute effectively to team goals	2.1 Identify team goals and own responsibilities relevant to achieving team goals 2.2 Contribute ideas and information in team planning discussions 2.3 Share knowledge and skills with team members to enable effective teamwork and seek or offer support as required
3. Work effectively with team members	3.1 Communicate clearly and respectfully with team members, considering the needs of those from diverse backgrounds and roles 3.2 Collaborate effectively with team members, including those who are working remotely on workplace issues 3.3 Seek and provide assistance and feedback to team members where appropriate
4. Communicate effectively with team leaders	4.1 Receive and confirm understanding of task instructions or directions 4.2 Communicate personal commitments in a timely manner 4.3 Identify and report any issues preventing the completion of workplace tasks, according to organisational requirements 4.4 Seek and act upon feedback to improve personal performance and/or behaviour

Foundation Skills

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

Skill	Description
Interact with others	• Uses appropriate communication practices when communicating with others • Cooperates and collaborates with team members
Get the work done	• Plans and implements routine tasks and workload making limited decisions on sequencing, timing and collaboration, seeking assistance in setting priorities • Uses digital technology to find, record or communicate information

Unit Mapping Information

No equivalent unit. New unit.

Links

Companion Volume Implementation Guides are available from VETNet -

<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=11ef6853-ceed-4ba7-9d87-4da407e23c10>

Assessment Requirements for BSBXTW301 Work in a team

Modification History

Release	Comments
Release 2	This version first released with BSB Business Services Training Package Version 5.0. Version created to rectify typographical error
Release 1	This version first released with BSB Business Services Training Package Version 4.0.

Performance Evidence

The candidate must demonstrate the ability to complete the tasks outlined in the elements, performance criteria, and foundation skills of this unit, including on at least one occasion, evidence of the ability to:

- identify individual and team roles and responsibilities
- plan assigned tasks according to priorities and deadlines, and in accordance with organisational requirements
- contribute to achievement of team goals
- share knowledge, ideas and problems with team members
- act on feedback in a constructive manner
- collaborate with a remote team member on a workplace issue.
-

Knowledge Evidence

The candidate must be able to demonstrate knowledge to complete the tasks outlined in the elements and performance criteria of this unit. This includes knowledge of:

- organisational requirements relevant to working in a workplace team:
 - workplace policies
 - codes of conduct
 - organisational reputation and culture
- typical compositions of workplace teams, and the roles and responsibilities of team members within organisations
- techniques for giving and receiving feedback in a constructive manner
- methods to support team members
- key principles of cross-cultural communication and communication with individuals with special needs or disabilities

- methods and tools to work with others remotely:
 - collaboration via phone or mobile
 - collaboration via video conference
 - collaboration via other digital tools or software
- issues that may impact team performance and outcomes
- techniques to collaborate effectively with those working remotely.
-

Assessment Conditions

Mandatory conditions for assessment include:

- A safe working or simulated environment

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

Links

Companion Volume Implementation Guides are available from VETNet -

<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=11ef6853-ceed-4ba7-9d87-4da407e23c10>

CPCCLDG3001 Licence to perform dogging

Modification History

- 1Release This version first released with CPC Construction, Plumbing and Services
1 Training Package Release 5.0.
- Supersedes and is equivalent to CPCCLDG3001A Licence to perform dogging.
Updated to meet the Standards for Training Packages 2012.

Application

This unit specifies the skills and knowledge required to safely perform dogging work. Dogging consists of the application of slinging techniques to move a load, including the selection and inspection of lifting gear, and the directing of a plant operator in the movement of a load when the load is out of sight of the operator.

Dogging work is conducted in the construction industry and other industries where loads are lifted and moved using cranes or hoists.

Completion of the general construction induction training program, specified in the Safe Work Australia model Code of Practice: Construction Work, is required by anyone carrying out construction work. Achievement of CPCCWHS1001 Prepare to work safely in the construction industry meets this requirement.

Competence in this unit does not in itself result in a licence. A licence is obtained after competence is assessed under applicable Commonwealth, state or territory work health and safety (WHS) regulations.

Pre-requisite Unit

Nil.

Unit Sector

Licencing

Elements and Performance Criteria

Elements describe the essential outcomes.

Performance criteria describe what needs to be done to demonstrate achievement of the element.

1 Plan task.	1.1 Review task instructions, consult with relevant persons to seek clarification as required, and obtain relevant

- workplace information.
- 1.2 Obtain and interpret information, including safe work method statements (SWMSs), required to ensure that activities are performed in compliance with workplace-specific and safe work requirements.
 - 1.3 Obtain and interpret information required to ensure that equipment inspection, use, maintenance and storage complies with manufacturer requirements.
 - 1.4 Identify workplace and task-specific hazards and determine required risk controls and safety measures and equipment, including signs and barricades, personal protective equipment (PPE), and fall prevention and fall arrest equipment.
 - 1.5 Calculate load weight, dimensions and centre of gravity.
 - 1.6 Determine lifting and slinging points.
 - 1.7 Calculate derated working load limit (WLL) of lifting equipment resulting from selected slinging techniques.
 - 1.8 Establish required communication methods with plant operator.
- 2 Select and inspect equipment.
- 2.1 Select risk controls and equipment, including fall prevention and fall arrest equipment, and check that it is working and fit for purpose.
 - 2.2 Select and check PPE.
 - 2.3 Select lifting equipment and gear, inspect for defects, and isolate, tag out, report and record defective items.
 - 2.4 Select communication equipment and check that it is working and fit for use.
- 3 Set up task.
- 3.1 Establish and maintain communication with relevant persons to ensure lift plan and risk controls are communicated clearly, including any impact on other workplace activities.
 - 3.2 Ensure risk controls and safety measures and equipment have been put in place.

- 3.3 Prepare lifting equipment and gear for safe use.
 - 3.4 Consult with relevant persons to ensure that the load destination is stable, able to bear the load and prepared for safe access and landing.
 - 3.5 Attach and secure lifting equipment and gear to the plant-designated lifting point.
- 4 Perform task.
- 4.1 Direct plant designated lifting point/hook, over the load's centre of gravity.
 - 4.2 Attach and secure lifting equipment and gear to the load using slinging techniques.
 - 4.3 Attach and secure tag line as required to guide the load.
 - 4.4 Use signals and radio communication methods to direct the load movement, both in and out of sight of the plant operator.
 - 4.5 Conduct test lift to check the security of the slings and the stability of the load, lifting equipment and gear.
 - 4.6 Direct the movement of the load in accordance with lift plan, including lowering and landing.
 - 4.7 Disconnect lifting gear from the load and direct the positioning of crane or hoist for next task.
- 5 Pack up and clean up.
- 5.1 Remove excess materials from work area.
 - 5.2 Inspect lifting equipment and gear for defects, and isolate, label and report defective items.
 - 5.3 Store lifting equipment and gear in accordance with workplace requirements.
 - 5.4 Remove risk controls and safety measures and equipment.

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 CPCCLDG3001A Licence to perform dogging.

Links

Companion volumes to this training package are available at the VETNet website -
<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=7e15fa6a-68b8-4097-b099-030a5569b1ad>

Assessment Requirements for CPCCLDG3001 Licence to perform dogging

Modification History

- Release 1 This version first released with CPC Construction, Plumbing and Services Training Package Release 5.0.
- Supersedes and is equivalent to CPCCLDG3001A Licence to perform dogging.
- Updated to meet the Standards for Training Packages 2012.

Performance Evidence

To demonstrate competency in this unit, a candidate must meet the elements and performance criteria by slinging and directing the movement of at least five loads of differing shapes, sizes and weights.

The loads must be moved by a slewing mobile crane of a maximum rated capacity of at least seven tonnes.

The candidate must:

- check relevant workplace information, including safe work method statements (SWMSs), and equipment service and maintenance records and checklists
- perform all activities in compliance with safe work practices and workplace-specific procedures and policies, and check, use, maintain and store equipment in compliance with manufacturer requirements
- identify hazards and use appropriate risk controls and safety measures and equipment
- determine load weight and travel path in consultation with crane operator
- select and inspect appropriate lifting gear and apply slinging techniques appropriate to the type of load, its mass and centre of gravity
- identify the working load limit (WLL) tags of the lifting equipment and gear and calculate the deration of the WLL resulting from the slinging techniques applied
- make temporary connections to loads using fibre or synthetic ropes
- use radio communication and hand and whistle signals to guide the crane operator, including when the load is out of sight of the crane operator.

The candidate must use the following bends and hitches when slinging and directing the movement of loads:

- single sheet bend
- clove hitch
- rolling hitch
- bowline.

Load types must include:

- stillage containing at least ten scaffolding standards or loose steel pipes of 200 kg or more
- ten loose steel pipes, of at least 2 m length, that need wrapping
- an uneven load of at least two tonnes requiring slinging
- steel plate of at least 1.5 m x 2 m x 25 mm
- a round load with a minimum diameter of 300 mm and minimum length of 3 m.

The candidate must direct each load through at least 180 degrees of the crane's slewing radius.

Each of the following must be used at least once:

- flexible steel wire rope (FSWR) sling
- synthetic sling
- chain sling (including shortener)
- spreader bar or lifting beam
- tag line
- shackles
- eyebolts
- plate clamps.

Knowledge Evidence

To be competent in this unit, a candidate must demonstrate knowledge of:

- safe work requirements for dogging under Commonwealth and state or territory work health and safety (WHS) legislation, standards and codes of practice
- workplace information, including legislative requirements covered by:
 - SWMSs
 - permits and certifications
 - information about equipment:
 - service and maintenance checklists and records
 - manufacturer specifications and manuals
 - workplace procedures, including emergency plans and incident reporting
- hazard identification and mitigation strategies, including the hierarchy of control:
 - elimination
 - substitution
 - isolation
 - engineering controls
 - administrative controls
 - use of personal protective equipment (PPE)
- hazards commonly encountered in dogging:
 - instability of landing surfaces
 - overhead and underground hazards
 - insufficient lighting

- traffic
- weather
- pedestrian traffic
- work at heights
- risk controls and equipment:
 - traffic management plan
 - traffic barricades and control
 - exclusion zones
 - pedestrian barricades
 - PPE
 - lights
 - fall prevention and fall arrest equipment
- PPE:
 - hard hat
 - safety boots
 - gloves
 - high-visibility clothing
 - breathing, hearing, sight and skin and sun protection
- hand, whistle and two-way radio communication, including signals for:
 - stop
 - hoist up and down
 - luff boom up and down
 - telescope in and out
 - slew left and right
- selection, inspection, care, handling, application, limitations and storage of dogging equipment and gear:
 - (FSWR sling
 - synthetic sling
 - chain sling (including shortener)
 - spreader bar or lifting beam
 - tag line
 - shackles
 - eyebolts
 - plate clamps
- slinging techniques
- load destination stability, load capacity and safe access for walking and unpacking the load:
 - ground
 - loading platforms
 - suspended floors

- vehicles
- mathematical processes for calculating deration of WLL of lifting equipment and gear due to slinging techniques
- methods of making temporary connections to loads using fibre and synthetic ropes:
 - single sheet bend
 - clove hitch
 - rolling hitch
 - bowline.

Assessment Conditions

Assessors must meet the requirements for assessors outlined in the Standards for Registered Training Organisations.

Only assessors who are accredited in the licence class by the appropriate WHS regulator for the jurisdiction governing the licence are permitted to conduct the final high-risk work licence assessment. The final licence assessment will only be undertaken with candidates who have completed training and been formally assessed against all elements in this unit.

Assessment must be conducted in the workplace or in a simulated workplace environment using realistic workplace conditions, materials, activities, responsibilities, procedures, safety requirements and environmental considerations, including:

- the use of full-scale, industry-standard equipment, not simulators
- performance of tasks within the timelines expected in a workplace.

Candidates must have access to:

- a slewing mobile crane of at least seven tonnes maximum rated capacity, and lifting equipment and gear in a safe and compliant condition
- loads and equipment required to perform the tasks specified in the Performance Evidence
- a licensed crane operator to undertake lifting activity
- workplace information and records, including:
 - equipment and maintenance checklists
 - record system for service and maintenance history
 - incident reports
- workplace procedures, including emergency plan
- equipment manuals and manufacturer specifications.

Links

Companion volumes to this training package are available at the VETNet website - <https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=7e15fa6a-68b8-4097-b099-030a5569b1ad>

CPCCLRG3001 Licence to perform rigging basic level

Modification History

Release 1 This version first released with CPC Construction, Plumbing and Services Training Package Release 5.0.

Supersedes and is equivalent to CPCCLRG3001A Licence to perform rigging basic level. Updated to meet the Standards for Training Packages 2012.

Application

This unit specifies the skills and knowledge required to safely perform basic rigging work.

Riggers use mechanical load shifting equipment and associated gear to move, place or secure loads, including plant, equipment or members of a structure. Riggers ensure the stability of those members and set up and dismantle hoists.

This unit applies to rigging work involving:

- structural steel erection
- hoists
- pre-cast concrete members of a structure
- safety nets and static lines
- mast climbing work platforms
- perimeter safety screens and shutters
- cantilevered crane loading platforms.

Rigging work is undertaken in construction and other industries where load shifting equipment is used to move, place or secure loads.

Completion of the general construction induction training program, specified in the Safe Work Australia model *Code of Practice: Construction Work*, is required by anyone carrying out construction work. Achievement of CPCCWHS1001 *Prepare to work safely in the construction industry* meets this requirement.

Competence in this unit does not in itself result in a licence. A licence is obtained after competence is assessed under applicable Commonwealth, state or territory work health and safety (WHS) regulations.

Pre-requisite Unit

CPCCLDG3001 Licence to perform dogging

Unit Sector

Licencing

Elements and Performance Criteria

Elements describe the essential outcomes.

Performance criteria describe what needs to be done to demonstrate achievement of the element.

1 Plan task.	1.1 Review task instructions, consult with relevant persons to seek clarification as required, and obtain relevant workplace information.
	1.2 Obtain and interpret information, including safe work method statements (SWMSs), required to ensure that activities are performed in compliance with workplace-specific and safe work requirements.
	1.3 Obtain and interpret information required to ensure that equipment inspection, use, maintenance and storage complies with manufacturer requirements.
	1.4 Identify workplace and task-specific hazards and determine required risk controls and safety measures and equipment, including signs and barricades, personal protective equipment (PPE), and fall prevention and fall arrest equipment.
	1.5 Identify methods of moving and placing tools, equipment and materials to minimise the risk of falling objects, to avoid inappropriate carrying on ladders and to minimise hazardous manual tasks.
	1.6 Identify required rigging equipment and associated gear.
	1.7 Calculate loads associated with mechanical load shifting equipment and associated gear required to erect and dismantle structures and plant.
	1.8 Establish required communication methods with relevant persons.
2 Select and inspect equipment.	2.1 Select risk controls and equipment, including fall prevention and fall arrest equipment, and check that it is working and fit for purpose.
	2.2 Select and check PPE.

- 2.3 Select rigging equipment and associated gear, inspect for defects, and isolate, tag out, report and record defective items.
 - 2.4 Select communication equipment and check that it is working and fit for use.
- 3 Set up task.
 - 3.1 Establish and maintain communication with relevant persons to ensure task plan and risk controls are communicated clearly, including any impact on other workplace activities.
 - 3.2 Ensure risk controls and safety measures and equipment have been put in place, including the fitting, adjusting and anchoring of fall protection equipment.
 - 3.3 Consult with relevant persons to ensure that ground and foundation have been assessed as suitable for task.
 - 3.4 Consult with relevant persons to ensure that the structure has been assessed as suitable for load bearing task.
- 4 Undertake basic rigging activities.
 - 4.1 Erect and dismantle all structures and plant while maintaining stability, in accordance with workplace and manufacturer requirements.
 - 4.2 Erect structural steel.
 - 4.3 Erect pre-cast concrete members of a structure, or lift and install a series of scenery panels.
 - 4.4 Erect and dismantle a safety net and static line.
 - 4.5 Erect and dismantle a hoist or mast climbing work platform.
 - 4.6 Install and dismantle a perimeter safety screen or shutter.
 - 4.7 Install and dismantle a cantilevered crane loading platform.
- 5 Complete task.
 - 5.1 Remove excess materials from work area.
 - 5.2 Inspect structures, plant, equipment and gear for defects,

and isolate, tag out and report defective items.

- 5.3 Store plant, equipment and gear in accordance with workplace requirements.
- 5.4 Remove risk controls and safety measures and equipment.

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 CPCCLRG3001A Licence to perform rigging basic level.

Links

Companion volumes to this training package are available at the VETNet website - <https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=7e15fa6a-68b8-4097-b099-030a5569b1ad>

Assessment Requirements for CPCCLRG3001 Licence to perform rigging basic level

Modification History

- Release 1 This version first released with CPC Construction, Plumbing and Services Training Package Release 5.0.
- Supersedes and is equivalent to CPCCLRG3001A Licence to perform rigging basic level. Updated to meet the Standards for Training Packages 2012.

Performance Evidence

To demonstrate competency in this unit, a candidate must meet the elements and performance criteria by safely performing rigging tasks at a basic level, including:

- erecting and dismantling a portal frame of structural steel consisting of columns (150 UC 29.8 kg/m), beams (minimum 200 UB 29.8 kg/m) and braces in accordance with engineering detail. It must include:
 - appropriate structural bolts, nuts, washers, purlins and girts
 - beams installed at a height of at least 4 m
 - suitable access and working platform (e.g. elevated work platform, mobile scaffold, scissor lift, portable industrial grade ladder)

It must be packed and plumbed and include temporary bracing during erection and dismantling. Hand tools and working at height safety equipment, including harness, lanyard and inertia reel, must be used

- installing and removing a series of three retaining wall panels, each panel being not less than 4 m high by 2 m wide and not less than 1.5 tonnes. One panel must be set at a 90-degree angle to one of the other panels - candidates must identify any defective lifting equipment
- installing and removing a safety (catch) net with minimum dimensions of 3 m x 4 m in accordance with manufacturer specification and engineering detail on portal frame - candidates must identify any defective nets
- installing, using and removing a static line at least 2.1 m above the beams on portal frame, in accordance with manufacturer specifications and engineering detail – candidates must identify any defective static lines and associated equipment
- installing and removing a cantilevered materials hoist (1 or 2 barrow) or a mast climbing work platform of at least three mast sections and tied in accordance with specifications
- installing and dismantling a perimeter safety screen or shutter of at least 4 m x 2 m in accordance with manufacturer specifications and engineering detail
- installing and dismantling a cantilevered crane loading platform at a height of at least 4 m with secure gates and handrails in accordance with manufacturer specifications and engineering detail

- setting up and operating a powered winch to move a load of at least 1 tonne
- using the following splice and hitch techniques:
 - eye splice
 - becket hitch.

The candidate must:

- check relevant workplace information, including safe work method statements (SWMSs) and equipment service and maintenance records and checklists
- perform all activities in compliance with workplace-specific, safe work and manufacturer requirements
- use the following associated gear:
 - beam clamps or pipe clamps or plate clamps
 - tag lines
 - flexible steel wire rope (FSWR)
 - chains
 - wire and synthetic slings
 - shackles
 - wedge sockets
 - eye bolts
 - rope grips
 - turnbuckles
 - chain blocks
 - sheave blocks
 - spreader bars or lifting beam
 - levers/podgers
 - skates/rollers
 - wedges
 - props
 - powered winches
 - snatch blocks
 - wire rope winches
 - lever pull (e.g. come-alongs)
- identify hazards and use appropriate risk controls and safety measures and equipment
- safely erect and dismantle structures and plant.

Knowledge Evidence

To be competent in this unit, a candidate must demonstrate knowledge of:

- safe work requirements for rigging under Australian Standards and Commonwealth and state or territory work health and safety (WHS) legislation, regulations, standards and codes of practice
- workplace information, including legislative requirements covered by:

- SWMSs
- permits and certifications
- information about equipment:
 - service and maintenance checklists and records
 - manufacturer and supplier specifications and manuals
- workplace procedures, including emergency plans and incident reporting
- hazard identification and mitigation strategies, including the hierarchy of control:
 - elimination
 - substitution
 - isolation
 - engineering controls
 - administrative controls
 - use of personal protective equipment (PPE)
- hazards commonly encountered in rigging basic level:
 - instability of work areas
 - damaged or poor-quality equipment
 - overhead and underground hazards
 - electrical items
 - mobile plant
 - insufficient lighting
 - wind and other adverse weather conditions
 - traffic
 - pedestrian traffic
 - hazardous manual tasks
 - falling objects
 - falls from heights
- minimum clearance distance from powerlines or electrical equipment specific to mobile plant and scaffolding and other structures as determined by relevant state or territory authority or electrical supply authority
- risk controls and equipment:
 - traffic control
 - pedestrian barricades
 - PPE
 - adequate illumination
 - safety structures and screens
- inspection, handling and storage of rigging structures and equipment, associated gear, and other required equipment:
 - rigging structures and equipment:
 - elevated work platforms
 - cantilevered crane loading platforms

- portal frames
- hoists
- pre-cast concrete members
- mast climbing work platform
- safety screens and shutters
- safety nets
- associated gear:
 - power and manually operated lifting gear
 - lifting clutches
 - tag lines
 - FSWR
 - chains
 - wire and synthetic slings
 - shackles
 - terminations
 - wedge sockets
 - eye bolts
 - beam clamps
 - pipe clamps
 - plate clamps
 - rope grips
 - turnbuckles
 - chain blocks
 - lever blocks
 - lever-action winches
 - sheaves
 - spreader bars
 - lifting beams
 - jacks
 - levers
 - skates
 - wedges
 - rollers
 - beam trolley
 - props
- safety equipment:
 - full-body safety harness
 - energy absorber
 - lanyard
 - inertia reel (fall arrester)

- static safety lines
- PPE:
 - hard hat
 - safety boots
 - gloves
 - high-visibility clothing
 - breathing, hearing, sight, skin and sun protection
- communication equipment:
 - two-way radios
 - whistles
- relevant persons:
 - doggers
 - riggers
 - crane operators
 - engineers
 - supervisors
- ground and foundation suitability:
 - rough, uneven ground
 - backfilled ground
 - soft soils
 - hard compacted soil
 - rock
 - bitumen
 - concrete
 - suspended concrete floors
 - building roofs
 - landings
 - ground bearing pressure
- mathematical processes for estimating and measuring loads for basic rigging
- techniques for making temporary connections.

Assessment Conditions

Assessors must meet the requirements for assessors outlined in the Standards for Registered Training Organisations.

Only assessors who are accredited in the licence class by the appropriate WHS regulator for the jurisdiction where the licence is obtained are permitted to conduct the final high-risk work licence assessment. The final licence assessment will only be undertaken with candidates who have completed training and been formally assessed against all elements in this unit.

Assessment must be conducted in the workplace or in a simulated workplace environment using realistic workplace conditions, materials, activities, responsibilities, procedures, safety requirements and environmental considerations, including:

- the use of full-scale, industry-standard equipment, not simulators
- performance of tasks within the timelines expected in a workplace
- participation of the candidate in activities within a team of three to five members.

Candidates must have access to:

- all personnel and equipment required to perform the tasks specified in the Performance Evidence
- workplace information and records, including:
 - equipment and maintenance checklists
 - record system for service and maintenance history
 - incident reports
 - workplace procedures, including SWMSs and emergency plans
 - equipment manuals and manufacturer specifications
 - relevant plant supplier information.

Links

Companion volumes to this training package are available at the VETNet website - <https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=7e15fa6a-68b8-4097-b099-030a5569b1ad>

CPCCLRG3002 Licence to perform rigging intermediate level

Modification History

Release 1 This version first released with CPC Construction, Plumbing and Services Training Package Release 5.0.

Supersedes and is equivalent to CPCCLRG3002A Licence to perform rigging intermediate level. Updated to meet the Standards for Training Packages 2012.

Application

This unit specifies the skills and knowledge required to safely perform intermediate rigging work.

Riggers use mechanical load shifting equipment and associated gear to move, place or secure loads, including plant, equipment or members of a building or structure. Riggers ensure the stability of those members and set up and dismantle cranes and hoists.

This unit includes rigging work involving:

- hoists with jibs and self-climbing hoists
- cranes, conveyors, dredges and excavators
- tilt slabs
- demolition of structures or plant
- multiple lifts.

Rigging work is undertaken in construction and other industries where load shifting equipment is used to move, place or secure loads.

Completion of the general construction induction training program, specified in the Safe Work Australia model Code of Practice: Construction Work, is required by anyone carrying out construction work. Achievement of CPCCWHS1001 Prepare to work safely in the construction industry meets this requirement.

Competence in this unit does not in itself result in a licence. A licence is obtained after competence is assessed under applicable Commonwealth, state or territory work health and safety (WHS) regulations.

Pre-requisite Unit

CPCCLRG3001 Licence to perform rigging basic level

Unit Sector

Licencing

Elements and Performance Criteria

Elements describe the essential outcomes.

Performance criteria describe what needs to be done to demonstrate achievement of the element.

1 Plan task.	1.1 Review task instructions, consult with relevant persons to seek clarification as required, and obtain relevant workplace information. 1.2 Obtain and interpret information, including safe work method statements (SWMSs), required to ensure that activities are performed in compliance with workplace-specific and safe work requirements. 1.3 Obtain and interpret information required to ensure that equipment inspection, use, maintenance and storage complies with manufacturer requirements. 1.4 Identify workplace and task-specific hazards and determine required risk controls and safety measures and equipment, including signs and barricades, personal protective equipment (PPE), and fall prevention and fall arrest equipment. 1.5 Identify methods of moving and placing tools, equipment and materials to minimise the risk of falling objects, to avoid inappropriate carrying on ladders and to minimise hazardous manual tasks. 1.6 Identify required rigging equipment and associated gear. 1.7 Calculate loads associated with mechanical load shifting equipment and associated gear required to erect and dismantle structures and plant. 1.8 Establish required communication methods with relevant persons.
2 Select and inspect equipment.	2.1 Select risk controls and equipment, including fall prevention and fall arrest equipment, and check that it is working and fit for purpose. 2.2 Select and check PPE. 2.3 Select rigging equipment and associated gear, inspect for defects, and isolate, tag out, report and record defective items.

- 2.4 Select communication equipment and check that it is working and fit for use.
- 3 Set up task.
 - 3.1 Establish and maintain communication with relevant persons to ensure task plan and risk controls are communicated clearly, including any impact on other workplace activities.
 - 3.2 Ensure risk controls and safety measures and equipment have been put in place, including the fitting, adjusting and anchoring of fall protection equipment.
 - 3.3 Consult with relevant persons to ensure that ground and foundation have been assessed as suitable for task.
 - 3.4 Consult with relevant persons to ensure that the structure has been assessed as suitable for load bearing task.
- 4 Undertake intermediate rigging activities.
 - 4.1 Erect and dismantle all structures and operate plant while maintaining stability, in accordance with workplace and manufacturer requirements.
 - 4.2 Conduct a multiple-crane lift.
 - 4.3 Erect and dismantle a tower crane section or a crane lattice boom section.
 - 4.4 Lift and install a series of tilt-up concrete panels.
 - 4.5 Remove a concrete-encased structural steel column and beam.
- 5 Complete task.
 - 5.1 Remove excess materials from work area.
 - 5.2 Inspect structures, plant, equipment and gear for defects, and isolate, tag out and report defective items.
 - 5.3 Store plant, equipment and gear in accordance with workplace requirements.
 - 5.4 Remove risk controls and safety measures and equipment.

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 CPCCLRG3002A Licence to perform rigging intermediate level.

Links

Companion volumes to this training package are available at the VETNet website - <https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=7e15fa6a-68b8-4097-b099-030a5569b1ad>

Assessment Requirements for CPCCLRG3002 Licence to perform rigging intermediate level

Modification History

- Release 1 This version first released with CPC Construction, Plumbing and Services Training Package Release 5.0.
- Supersedes and is equivalent to CPCCLRG3002A Licence to perform rigging intermediate level. Updated to meet the Standards for Training Packages 2012.

Performance Evidence

To demonstrate competency in this unit, a candidate must meet the elements and performance criteria by safely performing rigging tasks at an intermediate level, including:

- undertaking a multiple-crane lift of a load of at least 1 tonne and at least 4 m long
- one of the following:
 - adding and removing a tower crane section, or
 - adding and removing a crane lattice boom section, or
 - adding and removing a fly jib on a slewing mobile crane, or
 - erecting and dismantling a non-guyed tower
- installing and removing a three-panel structure, with each panel being at least 4 m high, at least 2 m wide and at least 1.5 tonnes
- using the following bends and hitches:
 - round turn
 - two half-hitches.

The candidate must:

- check relevant workplace information, including safe work method statements (SWMSs) and equipment service and maintenance records and checklists
- perform all activities in compliance with workplace-specific, safe work and manufacturer requirements
- identify hazards and use appropriate risk controls and safety measures and equipment
- use the following associated gear:
 - tag lines
 - flexible steel wire rope (FSWR)
 - chains
 - wire and synthetic slings
 - shackles
 - wedge sockets

- eye bolts
- rope grips
- turnbuckles
- chain blocks
- sheaves
- spreader bars or lifting beams
- snatch blocks
- lifting clutches
- safely erect and dismantle structures and plant.

Knowledge Evidence

To be competent in this unit, a candidate must demonstrate knowledge of:

- safe work requirements for rigging under Australian Standards, and Commonwealth and state or territory work health and safety (WHS) legislation, regulations, standards and codes of practice
- workplace information, including legislative requirements covered by:
 - SWMSs
 - permits and certifications
 - information about equipment:
 - service and maintenance checklists and records
 - manufacturer and supplier specifications and manuals
 - workplace procedures, including emergency plans and incident reporting
- hazard identification and mitigation strategies, including the hierarchy of control:
 - elimination
 - substitution
 - isolation
 - engineering controls
 - administrative controls
 - use of personal protective equipment (PPE)
- hazards commonly encountered in rigging intermediate level:
 - instability of work areas
 - damaged or poor-quality equipment
 - overhead and underground hazards
 - electrical items
 - mobile plant
 - insufficient lighting
 - wind and other adverse weather conditions
 - traffic
 - pedestrian traffic

- hazardous manual tasks
- falling objects
- falls from heights
- minimum clearance distance from powerlines or electrical equipment specific to mobile plant and scaffolding as determined by relevant state or territory authority or electrical supply authority
- risk controls and equipment:
 - traffic barricades and control
 - pedestrian barricades
 - PPE
 - adequate illumination
 - safety structures and screens
 - exclusion zones
- inspection, handling and storage of rigging structures and equipment, associated gear, and other required equipment:
 - rigging structures and equipment:
 - concrete tilt-up panels
 - non-guyed light towers
 - scaffolds
 - elevated work platforms
 - personnel box
 - cantilevered crane loading platforms
 - mast climbers
 - safety screens and shutters
 - cranes
 - associated gear:
 - power and manually operated lifting gear
 - lifting clutches
 - snatch blocks
 - tag lines
 - FSWR
 - chains
 - wire and synthetic slings
 - shackles
 - terminations
 - wedge sockets
 - eye bolts
 - beam clamps
 - pipe clamps
 - plate clamps

- wire rope grips
- turnbuckles
- rigging screws
- chain blocks
- lever blocks
- lever-action winches
- sheaves
- spreader bars
- lifting beams
- jacks
- levers
- skates
- wedges
- rollers
- beam trolley
- safety equipment:
 - safety harness
 - energy absorber
 - lanyard
 - inertia reel
 - static safety lines
- PPE:
 - hard hat
 - safety boots
 - gloves
 - high-visibility clothing
 - breathing, hearing, sight, skin and sun protection
- communication equipment:
 - two-way radios
 - whistles
- relevant persons:
 - doggers
 - riggers
 - load-shifting plant operators
 - engineers
 - supervisors
- ground and foundation suitability:
 - rough, uneven ground
 - backfilled ground
 - soft soils

- hard compacted soil
- rock
- bitumen
- concrete
- suspended concrete floors
- building roofs
- landings
- ground bearing pressure
- mathematical processes for estimating and measuring forces and loads for intermediate rigging
- techniques for making temporary connections by tying bends and hitches:
 - round turn
 - two half-hitches.

Assessment Conditions

Assessors must meet the requirements for assessors outlined in the Standards for Registered Training Organisations.

Only assessors who are accredited in the licence class by the appropriate WHS regulator for the jurisdiction where the licence is obtained are permitted to conduct the final high-risk work licence assessment. The final licence assessment will only be undertaken with candidates who have completed training and been formally assessed against all elements in this unit.

Assessment must be conducted in the workplace or in a simulated workplace environment using realistic workplace conditions, materials, activities, responsibilities, procedures, safety requirements and environmental considerations, including:

- the use of full-scale, industry-standard equipment, not simulators
- performance of tasks within the timelines expected in a workplace
- participation of the candidate in activities within a team of three to five members.

Candidates must have access to:

- all personnel and equipment required to perform the tasks specified in the Performance Evidence
- workplace information and records, including:
 - equipment and maintenance checklists
 - record system for service and maintenance history
 - incident reports
 - workplace procedures, including SWMSs and emergency plans
 - equipment manuals and manufacturer specifications
 - relevant plant supplier information.

Links

Companion volumes to this training package are available at the VETNet website -
<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=7e15fa6a-68b8-4097-b099-030a5569b1ad>

CPCCWHS1001 Prepare to work safely in the construction industry

Modification History

Release Comment

Version 1 Replaces superseded equivalent CPCCOHS1001A Work safely in the construction industry.

Application

This unit of competency specifies the mandatory work health and safety training required prior to undertaking construction work. The unit requires the person to demonstrate personal awareness and knowledge of health and safety legislative requirements in order to work safely and prevent injury or harm to self and others. It covers identifying and orally reporting common construction hazards, understanding basic risk control measures, and identifying procedures for responding to potential incidents and emergencies. It also covers correctly selecting and fitting common personal protective equipment (PPE) used for construction work.

This unit meets the general construction induction training requirements of:

- Part 1.1 Definitions and Part 6.5 of the Model Work Health and Safety Regulations;
- Division 11 of Part 3 of the Occupational Safety and Health Regulations 1996 for Western Australia; and
- Division 3 of Part 5.1 of the Occupational Health and Safety Regulations 2007 for Victoria.

It is expected that site-specific induction training will be conducted prior to conducting construction work.

Licensing, legislative, regulatory or certification requirements apply to this unit. Relevant work health and safety state and territory regulatory authorities should be consulted to confirm jurisdictional requirements.

Pre-requisite Unit

Nil

Unit Sector

Construction

Elements and Performance Criteria

Elements describe the essential outcomes.

Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the range of conditions.

1. Identify health and safety legislative requirements of construction work.	1.1. Basic roles, responsibilities and rights of duty holders are identified and explained according to <i>jurisdictional health and safety legislative requirements</i> .
	1.2. Duty of care requirements are identified.
	1.3. Construction safe work practices are identified and explained.
2. Identify construction hazards and risk control measures.	2.1. Basic principles of risk management are identified.
	2.2. Construction hazards are identified and discussed.
	2.3. Purpose and use of PPE are identified and demonstrated.
	2.4. Measures for controlling hazards are identified.
3. Identify health and safety communication and reporting processes.	3.1. Health and safety documents are identified and discussed.
	3.2. Roles of designated health and safety personnel are identified and explained.
	3.3. Safety signs and symbols are identified and explained.
	3.4. Procedures for reporting hazards, incidents and injuries are identified.
4. Identify incident and emergency response	4.1. Procedures for responding to incidents and emergencies are identified and explained.
	4.2. Procedures for accessing first aid are identified.

procedures.

- 4.3. Types and purpose of fire safety equipment are identified and discussed.

Foundation Skills

This section describes the language, literacy, numeracy and employment skills essential to performance in this unit but not explicit in the performance criteria.

Skill	Performance feature
Numeracy skills to:	locate and recognise numbers commonly used in safety signs.
Oral communication skills to:	- ask questions to clarify instructions - listen to instructions to identify key safety information - tell another person about a construction problem or hazard.
Reading skills to:	- follow simple pictorial safety instructions - follow simple safety instructions that are written in English.
Problem-solving skills to:	select risk control measures.

Range of Conditions

This section specifies work environments and conditions that may affect performance. Essential operating conditions that may be present (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) are included. Bold italicised wording, if used in the performance criteria, is detailed below.

<i>Jurisdictional health and safety legislative requirements</i> must include at least one of the following state and territory Acts or their equivalent:	- Australian Capital Territory: Work Health and Safety Act 2011 - New South Wales: Work Health and Safety Act 2011 - Northern Territory: Work Health and Safety (National Uniform Legislation) Act 2011 - Queensland: Work Health and Safety Act 2011 - South Australia: Work Health and Safety Act 2012 - Tasmania: Work Health and Safety Act 2012 - Victoria: Occupational Health and Safety Act 2004 - Western Australia: Occupational Safety and Health Act 1984.

Unit Mapping Information

Supersedes and is equivalent to CPCCOHS1001A Work safely in the construction industry

Links

Companion Volume implementation guides are found in VETNet -

<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=7e15fa6a-68b8-4097-b099-030a5569b1ad>

Assessment Requirements for CPCCWHS1001 Prepare to work safely in the construction industry

Modification History

Release Comment

Version 1 Replaces superseded equivalent CPCCOHS1001A Work safely in the construction industry.

Performance Evidence

A person demonstrating competency in this unit must satisfy the requirements of the elements, performance criteria, foundation skills, and range of conditions of this unit, in addition to the specific performance and knowledge evidence described below.

The person must:

- identify and orally report two construction hazards
- orally explain how risk could be reduced or removed in relation to those two hazards
- select appropriate personal protective equipment (PPE) to control the risk
- orally explain basic procedures for responding to incidents and emergencies, including types and purpose of the following fire safety equipment:
 - fire blankets
 - fire extinguishers, including water, carbon dioxide, powder and foam
 - hose reels and mains
- identify and orally explain the meaning of required safety signs and symbols
- orally explain the purpose of job safety analyses (JSAs), safe work method statements (SWMS) and safety data sheets (SDS)
- orally explain the roles of the following designated health and safety personnel:
 - first aid officers
 - work health and safety representatives
 - work health and safety committee members
 - supervisors.

The person must also demonstrate correctly fitting to themselves the PPE listed below:

- eye protection
- hearing protection
- hard hat

- high visibility retro reflective vest.

Knowledge Evidence

A person must demonstrate knowledge of:

- basic duty of care, and the roles, rights and responsibilities of business owners and workers in relation to working safely while undertaking construction work
- basic meaning of the terms ‘hazard’ and ‘risk’
- basic principles of risk management, including the following five steps in order:
 - identify hazard
 - assess risk
 - consult and report
 - control hazard
 - review
- basic procedures for accessing first aid
- construction hazards, including those relating to:
 - asbestos
 - confined spaces
 - electrical: power lines, cords and equipment
 - excavations and trenches, including underground services
 - dust
 - falling objects
 - hazardous substances and dangerous goods
 - hot and cold work environments
 - manual handling
 - noise
 - plant and equipment operation
 - traffic and mobile plant
 - unplanned collapse
 - ultraviolet radiation
 - working at heights, including scaffolding
- construction work that requires a high risk work licence
- types, purpose and use of PPE used in construction, as specified in the performance evidence, and including safety footwear, harnesses and respiratory protection, and ultraviolet (UV) protective clothing and sunscreen
- construction emergencies, including:
 - chemical spill
 - fire
 - injury to personnel
 - structural collapse
 - toxic or flammable vapour emission

- vehicle or mobile plant accident
- construction incidents, including:
 - incidents resulting in personal injury or damage to property
 - near misses or dangerous occurrences that do not cause injury but may pose an immediate and significant risk to persons or property, and need to be reported so that action can be taken to prevent recurrence
- safe work practices that should be followed in construction work, including:
 - accessing and using site amenities for drinking water, hand washing and toilets
 - following safety procedures when performing work tasks and using equipment
 - identifying and reporting hazards, incidents and injuries in the workplace
 - keeping the work area clean, tidy and free from debris
 - not using or being affected by drugs and/or alcohol while at work
 - preventing bullying and harassment in the workplace
 - selecting and using required PPE
 - smoking only in designated areas
 - storing and removing waste and debris in designated areas
- meanings and symbols associated with construction safety signs, symbols and tags, including:
 - emergency information signs: exits, emergency equipment and first aid
 - fire signs: location of fire alarms and firefighting equipment
 - hazard signs and symbols: danger and warning
 - regulatory signs and symbols: prohibition, mandatory and limitation or restriction
 - safety and lockout tags: danger and out-of-service tags.

Assessment Conditions

The following must be present and available to learners during assessment activities:

- equipment:
 - all of the PPE listed in the performance evidence
- specifications:
 - state or territory Act relevant to the location of the learner, as specified in the range of conditions.

The assessment of performance evidence must be done by direct observation of the learner by an assessor, either by an assessor observing the learner physically and/or by an assessor observing the learner via audio and visual media in real time.

Assessor requirements

As a minimum, assessors must satisfy the assessor requirements in the Standards for Registered Training Organisations (RTOs) current at the time of assessment.

Assessors must hold the unit *CPCCOHS2001A Apply OHS requirements, policies and procedures in the construction industry*, or its successor.

Links

Companion Volume implementation guides are found in VETNet -
<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=7e15fa6a-68b8-4097-b099-030a5569b1ad>

CPCPCM4012 Estimate and cost work

Modification History

- Release 1 This version first released with CPC Construction, Plumbing and Services Training Package Release 5.0.
- Supersedes and is equivalent to CPCPCM4012A Estimate and cost work.
Updated to meet the Standards for Training Packages 2012.

Application

This unit specifies the skills and knowledge required to estimate materials, labour and time requirements and to establish costs for provision of quotations to provide services to a Class 1 building.

In some jurisdictions, this unit of competency may form part of accreditation, licensing, legislative, regulatory or certification requirements.

Pre-requisite Unit

Nil.

Unit Sector

Plumbing

Elements and Performance Criteria

Elements describe the essential outcomes.

Performance criteria describe what needs to be done to demonstrate achievement of the element.

1	Gather information.	1.1	Determine customer requirements.
		1.2	Access plans and specifications to determine work requirements.
		1.3	Consider sustainability principles and concepts applicable to proposed work.
		1.4	Determine source of products and services to be provided.
		1.5	Determine delivery point and methods of transportation.

2	Estimate materials, labour and time.	2.1	Plan and sequence work, including preparatory tasks.
		2.2	Calculate types and quantities of materials required.
		2.3	Determine plant and equipment requirements to perform work.
		2.4	Assess labour requirements to perform work.
		2.5	Determine time requirements to perform work.
3	Calculate costs.	3.1	Estimate total cost of materials, plant, equipment, sundry costs and labour according to workplace procedures.
		3.2	Apply overheads and mark-up percentages to calculate total work cost.
		3.3	Produce final cost for work.
4	Document and verify details.	4.1	Record details of services, costs and charges according to workplace procedures.
		4.2	Apply terms, inclusions and exclusions according to workplace procedures.
		4.3	Present quotation according to workplace procedures.
		4.4	Store quotations and documentation for future reference according to workplace procedures.

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 CPCPCM4012A Estimate and cost work.

Links

Companion volumes to this training package are available at the VETNet website -
<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=7e15fa6a-68b8-4097-b099-030a5569b1ad>

Assessment Requirements for CPCPCM4012 Estimate and cost work

Modification History

- Release 1 This version first released with CPC Construction, Plumbing and Services Training Package Release 5.0.
- Supersedes and is equivalent to CPCPCM4012A Estimate and cost work.
Updated to meet the Standards for Training Packages 2012.

Performance Evidence

To demonstrate competency, a candidate must meet the performance criteria for this unit by:

- providing detailed quotations from a set of plans for three varied jobs for a Class 1 building to customer requirements.

The quotes and tenders must include two of the following:

- sanitary/drainage installation
- mechanical services installation
- a gas installation
- a roofing installation
- a fire services installation
- a water services installation

The quotes and tenders must:

- include accurate and industry realistic estimates and costs for labour, materials, overheads and timing
- be reflective of the clients' needs
- be presented in according to workplace procedures.

Knowledge Evidence

To be competent in this unit, a person must demonstrate knowledge of:

- how to read plans and specifications to determine requirements
- process for estimating, managing and costing work
- calculating material requirements
- relevant statutory requirements related to estimating and costing work
- tendering and quotations
- contracting processes
- factors for estimating and costing:

- labour
- awards and workplace agreements
- materials
- plant and equipment
- overheads
- costing programs
- how to access relevant information, including codes and standards
- tools, materials and equipment used for estimating and costing work
- work health and safety (WHS) requirements for estimating and costing work.

Assessment Conditions

Assessors must satisfy the requirements for assessors listed in the Standards for Registered Training Organisations.

This unit must be assessed in the workplace or a close simulation using realistic workplace conditions, materials, activities, responsibilities, procedures, safety requirements and environmental considerations.

Links

Companion volumes to this training package are available at the VETNet website - <https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=7e15fa6a-68b8-4097-b099-030a5569b1ad>

CPPFES2005 Demonstrate first attack firefighting equipment

Modification History

Release 1 This version first released with CPP Property Services Training Package Release 13.0.

Supersedes and is equivalent to CPPFES2005A Demonstrate first attack firefighting equipment. Unit updated to meet the Standards for Training Packages 2012.

Application

This unit of competency specifies the skills and knowledge required to demonstrate first attack firefighting equipment. It includes demonstrating and explaining to clients how to correctly and safely use portable fire extinguishers, fire hose reels and fire blankets in emergency situations.

The unit is suitable for those with basic skills and knowledge undertaking routine work tasks under the direction of more experienced workers.

Licensing, legislative, regulatory or certification requirements apply to this unit of competency in some states and territories. For further information, check with the relevant regulatory authority.

Pre-requisite Unit

Nil.

Unit Sector

Fire Protection Inspection and Testing

Elements and Performance Criteria

Elements describe the essential outcomes.

Performance criteria describe what needs to be done to demonstrate achievement of the element.

1 Demonstrate and explain correct use of portable fire extinguisher to extinguish simulated	1.1	Explain purpose and use of different types of fire extinguishers to relevant persons.
	1.2	Identify fire type and classification.
	1.3	Select fire extinguisher according to fire type and

fire.		classification.
	1.4	Demonstrate safe and correct use of fire extinguisher to attack fire according to manufacturer requirements.
2 Demonstrate and explain correct use of fire hose reel.	2.1	Explain purpose and use of fire hose reel to relevant persons.
	2.2	Unroll fire hose reel according to manufacturers' instructions.
	2.3	Operate fire hose reel nozzle to direct water stream at selected target.
	2.4	Turn off water in approved sequence and check hose reel for leaks according to manufacturers' instructions.
	2.5	Rewind fire hose reel after use according to manufacturer requirements.
3 Demonstrate and explain use of fire blanket.	3.1	Explain purpose and use of fire blanket to relevant persons.
	3.2	Demonstrate safe and correct use of fire blanket to attack fire according to manufacturer 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 CPPFES2005A Demonstrate first attack firefighting equipment.

Links

Companion volumes to this training package are available at the VETNet website - <https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=7e15fa6a-68b8-4097-b099-030a5569b1ad>

Assessment Requirements for CPPFES2005 Demonstrate first attack firefighting equipment

Modification History

- Release 1 This version first released with CPP Property Services Training Package Release 13.0.
- Supersedes and is equivalent to CPPFES2005A Demonstrate first attack firefighting equipment. Unit updated to meet the Standards for Training Packages 2012.

Performance Evidence

To demonstrate competency, a candidate must meet the elements and performance criteria of this unit by demonstrating and explaining the correct and safe use of first attack firefighting equipment, including:

- selecting an appropriate extinguisher and demonstrating correct extinguishment methods for the following simulated fires:
 - one class A, C or F type fire involving two different types of equipment or materials
 - one class A, C or F type fire involving potentially energised electrical equipment
 - one class B type fire
 - one class D type fire
- attacking a fire using a fire hose reel where the fire is located more than 10 metres from the installed location of the hose reel
- attacking a fire using a fire blanket.

Knowledge Evidence

To be competent in this unit, a candidate must demonstrate knowledge of:

- basic methods of locating a fire
- correct use of fire extinguishers and hose reels on different classes of fire and implications of incorrect use
- how fire can be spread by conduction, convection, radiation and direct burning
- how water pressure influences the discharge distance for hose reels
- key actions in a fire emergency, commonly known by the acronym RACE:
 - rescue
 - activate alarm
 - confine fire
 - evacuate or extinguish

- meaning of secondary damage
- reasons why cooking oil and fat fires require special attention
- theory of fire, including the triangle of combustion
- types and operation of fire protection equipment classified as first attack equipment.

Assessment Conditions

Assessors must meet the requirements for assessors contained in the Standards for Registered Training Organisations.

This unit of competency could be assessed by practical demonstration, using simulated fire situations. Due to safety and cost factors, methods of extinguishing class D, E and F fires are confined to oral explanations and role play or simulations only.

All practical demonstrations involving the use of simulated fires must adhere to the safety and environmental regulations relevant to each state or territory.

Candidates must have access to documentation, first attack firefighting equipment and simulated fire situations required to achieve the performance evidence.

Links

Companion volumes to this training package are available at the VETNet website - <https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=7e15fa6a-68b8-4097-b099-030a5569b1ad>

HLTAID009 Provide cardiopulmonary resuscitation

Modification History

Not applicable.

Application

This unit describes the skills and knowledge required to perform cardiopulmonary resuscitation (CPR) in line with the Australian Resuscitation Council (ARC) guidelines.

This unit applies to all persons who may be required to provide CPR, in a range of situations, including community and workplace settings.

Specific licensing/regulatory requirements relating to this competency, including requirements for refresher training should be obtained from the relevant national/state/territory Work Health and Safety Regulatory Authorities.

Elements and Performance Criteria

ELEMENTS

PERFORMANCE CRITERIA

Elements describe the essential outcomes

Performance criteria describe the performance needed to demonstrate achievement of the element.

1. Respond to an emergency situation.

- 1.1. Recognise and assess an emergency situation.
- 1.2. Ensure safety for self, bystanders and casualty.
- 1.3. Assess the casualty and recognise the need for cardiopulmonary resuscitation (CPR).
- 1.4. Seek assistance from emergency services.

2. Perform CPR procedures.

- 2.1. Perform CPR in accordance with the ARC guidelines.
- 2.2. Display respectful behaviour towards casualty.
- 2.3. Operate an automated external defibrillator (AED) according to manufacturers' instructions.

3. Communicate details of the incident.

- 3.1. Accurately convey incident details to emergency services.
- 3.2. Report details of incident in line with appropriate workplace or site procedures.
- 3.3. Maintain privacy and confidentiality of information in line with statutory or organisational policies.

- 4. Review the incident.
 - 4.1. Recognise the possible psychological impacts on self and other rescuers and seek help when required.
 - 4.2. Contribute to a review of the first aid response as required.

Foundation Skills

The Foundation Skills describe those required skills (language, literacy, numeracy and employment skills) that are essential to performance.

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

Unit Mapping Information

Supersedes and not equivalent to HLTAID001 Perform cardiopulmonary resuscitation

Links

Companion Volume implementation guides are found in VETNet -
<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=ced1390f-48d9-4ab0-bd50-b015e5485705>

Assessment Requirements for HLTAID009 Provide cardiopulmonary resuscitation

Modification History

Not applicable.

Performance Evidence

Evidence of the ability to complete tasks outlined in elements and performance criteria of this unit in the context of the workplace or community setting.

There must be evidence that the candidate has completed the following tasks in line with State/Territory regulations, first aid codes of practice, first aid guidelines determined by the Australian Resuscitation Council (ARC) and other Australian national peak clinical bodies and workplace or site procedures:

- managed, in line with ARC guidelines, the unconscious, breathing casualty including appropriate positioning to reduce the risk of airway compromise
- managed, in line with ARC guidelines, the unconscious, non-breathing adult, including:
 - performing at least 2 minutes of uninterrupted single rescuer cardiopulmonary resuscitation (CPR) (5 cycles of both compressions and ventilations) on an adult resuscitation manikin placed on the floor
 - following the prompts of an automated external defibrillator (AED) to deliver at least one shock
 - demonstrating a rotation of single rescuer operators with minimal interruptions to compressions
 - responding appropriately in the event of regurgitation or vomiting
 - handing over to emergency services
 - providing an accurate verbal report of the incident
 - reviewing the incident
- managed, in line with ARC guidelines, the unconscious, non-breathing infant, including:
 - performing at least 2 minutes of uninterrupted single rescuer CPR (5 cycles both compressions and ventilations) on an infant resuscitation manikin placed on a firm surface.

Knowledge Evidence

Demonstrated knowledge required to complete the tasks outlined in elements and performance criteria of this unit:

- guidelines and procedures including:
 - relevant ARC guidelines to managing the unconscious breathing and non-breathing casualty and provision of CPR
 - potential incident hazards and risk minimisation processes when providing first aid

- infection control procedures, including use of standard precautions and resuscitation barrier devices
- requirements for currency of skill and knowledge
- first aid codes of practice
- appropriate workplace or site procedures relevant to the provision of first aid
- legal, workplace and community considerations, including:
 - duty of care requirements
 - own skills and limitations
 - consent and how it relates to the conscious and unconscious casualty
 - privacy and confidentiality requirements
 - awareness of potential need for stress management techniques and available support for rescuers
- considerations when providing CPR, including:
 - upper airway and effect of positional change
 - appropriate duration and cessation of CPR
 - appropriate use of an AED
 - safety and maintenance procedures for an AED
 - chain of survival
 - how to access emergency services
- techniques for providing CPR to adults, children and infants including:
 - how to recognise that a casualty is unconscious and not breathing normally
 - rate, ratio and depth of compressions and ventilations
 - correct hand positioning for compressions
 - basic anatomy, physiology and the differences between adults, children and infants relating to CPR.

Assessment Conditions

Each candidate to demonstrate skills in an environment that provides realistic in-depth, scenarios and simulations to assess candidates' skills and knowledge.

Due to the nature of this type of training, it is acceptable for the performance evidence to be collected in a simulated environment.

Compression and ventilation skills must be demonstrated on resuscitation manikins following ARC guidelines for the purpose of assessment of CPR procedures.

Assessment must ensure access to:

- adult and infant resuscitation manikins following ARC guidelines for the purpose of assessment of CPR procedures
- AED training devices
- personal protective equipment (PPE).

Simulated assessment environments must simulate real-life situations where these skills and knowledge would be performed, with all the relevant equipment and resources of that workplace or community environment.

Assessors must satisfy the Standards for Registered Training Organisations' requirements for assessors and must hold this unit or demonstrate equivalent skills and knowledge to that contained within this unit.

Links

Companion Volume implementation guides are found in VETNet -
<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=ced1390f-48d9-4ab0-bd50-b015e5485705>

HLTAID011 Provide First Aid

Modification History

Not applicable.

Application

This unit describes the skills and knowledge required to provide a first aid response to a casualty in line with first aid guidelines determined by the Australian Resuscitation Council (ARC) and other Australian national peak clinical bodies.

The unit applies to all persons who may be required to provide a first aid response in a range of situations, including community and workplace settings.

Specific licensing/regulatory requirements relating to this competency, including requirements for refresher training should be obtained from the relevant national/state/territory Work Health and Safety Regulatory Authorities.

Elements and Performance Criteria

ELEMENTS

PERFORMANCE CRITERIA

Elements describe the essential outcomes

Performance criteria describe the performance needed to demonstrate achievement of the element.

1. Respond to an emergency situation.

- 1.1. Recognise and assess an emergency situation.
- 1.2. Ensure safety for self, bystanders and casualty.
- 1.3. Assess the casualty and recognise the need for first aid response.
- 1.4. Seek assistance from emergency services.

2. Apply appropriate first aid procedures.

- 2.1. Perform cardiopulmonary resuscitation (CPR) in accordance ARC guidelines.
- 2.2. Provide first aid in accordance with established first aid principles.
- 2.3. Display respectful behaviour towards casualty.
- 2.4. Obtain consent from casualty where possible.
- 2.5. Use available resources and equipment to make the casualty as comfortable as possible.
- 2.6. Operate first aid equipment according to manufacturers' instructions.
- 2.7. Monitor the casualty's condition and respond in accordance with first aid principles.

3. Communicate details of the incident.	3.1. Accurately convey incident details to emergency services.
	3.2. Report details of incident in line with appropriate workplace or site procedures.
	3.3. Complete applicable workplace or site documentation, including incident report form.
	3.4. Maintain privacy and confidentiality of information in line with statutory or organisational policies.
4. Review the incident.	4.1. Recognise the possible psychological impacts on self and other rescuers and seek help when required.
	4.2. Contribute to a review of the first aid response as required.

Foundation Skills

The Foundation Skills describe those required skills (language, literacy, numeracy and employment skills) that are essential to performance.

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

Unit Mapping Information

Supersedes and not equivalent to HLTAID003 Provide first aid

Links

Companion Volume implementation guides are found in VETNet - <https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=ced1390f-48d9-4ab0-bd50-b015e5485705>

Assessment Requirements for HLTAID011 Provide First Aid

Modification History

Not applicable.

Performance Evidence

Evidence of the ability to complete tasks outlined in elements and performance criteria of this unit in the context of the workplace or community setting.

There must be evidence that the candidate has completed the following tasks in line with State/Territory regulations, first aid codes of practice, first aid guidelines determined by the Australian Resuscitation Council (ARC) and other Australian national peak clinical bodies and workplace or site procedures:

- managed, in line with ARC guidelines, the unconscious, breathing casualty including appropriate positioning to reduce the risk of airway compromise
- managed, in line with ARC guidelines, the unconscious, non-breathing adult, including:
 - performing at least 2 minutes of uninterrupted single rescuer cardiopulmonary resuscitation (CPR) (5 cycles of both compressions and ventilations) on an adult resuscitation manikin placed on the floor
 - following the prompts of an automated external defibrillator (AED) to deliver at least one shock
 - demonstrating a rotation of single rescuer operators with minimal interruptions to compressions
 - responding appropriately in the event of regurgitation or vomiting
- managed, in line with ARC guidelines, the unconscious, non-breathing infant, including:
 - performing at least 2 minutes of uninterrupted single rescuer CPR (5 cycles both compressions and ventilations) on an infant resuscitation manikin placed on a firm surface
- managed casualties, with the following:
 - anaphylaxis
 - asthma
 - non-life-threatening bleeding
 - choking
 - envenomation, using pressure immobilisation
 - fractures, dislocations, sprains and strains, using appropriate immobilisation techniques
 - minor wound cleaning and dressing
 - nosebleed
 - shock

- responded to at least one simulated first aid incident contextualised to the candidate's workplace or community setting, where the candidate has no knowledge of the casualty's condition prior to starting treatment, including:
 - identifying the casualty's illness or injury through history, signs and symptoms
 - using personal protective equipment (PPE) as required
 - providing appropriate first aid treatment
 - conveying incident details to emergency services or advising casualty on any required post incident action
 - providing an accurate verbal and written report of the incident
 - reviewing the incident.

Knowledge Evidence

Demonstrated knowledge required to complete the tasks outlined in elements and performance criteria of this unit:

- guidelines and procedures including:
 - ARC guidelines relevant to the provision of first aid
 - first aid guidelines from Australian national peak clinical bodies
 - potential incident hazards and risk minimisation processes when providing first aid
 - infection control procedures, including use of standard precautions and resuscitation barrier devices
 - requirements for currency of skill and knowledge
 - first aid codes of practice
 - appropriate workplace or site procedures relevant to the provision of first aid
 - contents of first aid kits
- legal, workplace and community considerations including:
 - duty of care requirements
 - own skills and limitations
 - consent and how it relates to the conscious and unconscious casualty
 - privacy and confidentiality requirements
 - awareness of potential need for stress management techniques and available support for rescuers
- considerations when providing CPR, including:
 - upper airway and effect of positional change
 - appropriate duration and cessation of CPR
 - appropriate use of an AED
 - safety and maintenance procedures for an AED
 - chain of survival
 - how to access emergency services
- techniques for providing CPR to adults, children and infants including:
 - how to recognise that a casualty is unconscious and not breathing normally

- rate, ratio and depth of compressions and ventilations
- correct hand positioning for compressions
- basic anatomy, physiology and the differences between adults, children and infants relating to CPR
- signs, symptoms and management of the following conditions and injuries:
 - allergic reaction
 - anaphylaxis
 - asthma
 - non-life-threatening and life-threatening bleeding
 - burns
 - cardiac conditions, including chest pain
 - choking
 - diabetes
 - drowning
 - envenomation - all current treatments
 - eye injuries
 - fractures, dislocations, strains and sprains
 - head, neck and spinal injuries
 - hypothermia
 - hyperthermia
 - minor wounds
 - nose-bleed
 - poisoning
 - seizures
 - shock
 - sharps injuries
 - stroke.

Assessment Conditions

Each candidate to demonstrate skills in an environment that provides realistic in-depth, scenarios and simulations to assess candidates' skills and knowledge.

Due to the nature of this type of training, it is acceptable for the performance evidence to be collected in a simulated environment.

Compression and ventilation skills must be demonstrated on resuscitation manikins following ARC guidelines for the purpose of assessment of CPR procedures.

Assessment must ensure access to:

- adult and infant resuscitation manikins following ARC guidelines for the purpose of assessment of CPR procedures
- adrenaline auto-injector training device

- AED training devices
- workplace first aid kit
- placebo bronchodilator and spacer device
- different types of wound dressings and bandages
- blankets and items to treat for shock
- personal protective equipment (PPE)
- workplace injury, trauma or illness record, or other applicable workplace or site incident report form.

Simulated assessment environments must simulate real-life situations where these skills and knowledge would be performed, with all the relevant equipment and resources of that workplace or community environment.

Assessors must satisfy the Standards for Registered Training Organisations' requirements for assessors and must hold this unit or demonstrate equivalent skills and knowledge to that contained within this unit.

Links

Companion Volume implementation guides are found in VETNet -
<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=ced1390f-48d9-4ab0-bd50-b015e5485705>

HLTAID013 Provide First Aid in remote or isolated site

Modification History

Not applicable.

Application

This unit describes the skills and knowledge required to provide a first aid response to a casualty in a remote or isolated site over an extended period of time until medical assistance is provided, or evacuation occurs.

This unit applies to any site where medical assistance is likely to be delayed.

First aid is to be provided in line with guidelines determined by the Australian Resuscitation Council (ARC) and other Australian national peak clinical bodies.

Specific licensing/regulatory requirements relating to this competency, including requirements for refresher training should be obtained from the relevant national/state/territory Work Health and Safety Regulatory Authorities.

Elements and Performance Criteria

ELEMENTS

PERFORMANCE CRITERIA

Elements describe the essential outcomes

Performance criteria describe the performance needed to demonstrate achievement of the element.

1. Prepare equipment for first aid response in remote or isolated site.

- 1.1. Evaluate information about remote or isolated site and identify potential injuries and illnesses requiring extended management.
- 1.2. Select first aid equipment and resources to manage a range of potential incidents, according to organisational emergency response and first aid procedures.
- 1.3. Select communication equipment to facilitate emergency response in remote or isolated site.
- 1.4. Complete pre-departure safety and serviceability checks on equipment.

2. Assess the situation.

- 2.1. Recognise and assess an emergency situation.
- 2.2. Ensure safety for self, bystanders and casualty.
- 2.3. Assess casualty to determine extent of first aid response.
- 2.4. Identify need for medical assistance and relay initial and

- concise information.
- 2.5. Triage when multiple casualties are involved.
3. Apply appropriate first aid procedures.
- 3.1. Perform single-rescuer or two-rescuer cardiopulmonary resuscitation (CPR) in accordance with the ARC guidelines and availability of rescuers.
- 3.2. Provide first aid in accordance with established first aid principles.
- 3.3. Display respectful behaviour towards casualty.
- 3.4. Obtain consent from casualty where possible.
- 3.5. Use available resources and equipment to make the casualty as comfortable as possible.
- 3.6. Operate first aid equipment according to manufacturers' instructions.
- 3.7. Monitor the casualty's condition and respond in accordance with first aid principles.
- 3.8. Assess need to evacuate casualty, ability to transport to medical assistance or need for external assistance.
- 3.9. Administer medication as required according to medical instructions.
4. Communicate details of the incident.
- 4.1. Accurately convey incident details to emergency services.
- 4.2. Report details of incident in line with appropriate workplace or site procedures.
- 4.3. Complete applicable workplace or site documentation, including incident report form.
- 4.4. Maintain privacy and confidentiality of records and information in line with applicable statutory or organisational policies.
5. Coordinate evacuation and first aid activities until assistance arrives.
- 5.1. Determine need, in consultation with external services, to evacuate casualty.
- 5.2. Provide accurate information about location of incident, number of casualties, their condition and their position to enable deployment of appropriate resources.
- 5.3. Continue to provide treatment using available resources until help arrives.
- 5.4. Prepare site for evacuation of patient.
- 5.5. On approach, assist emergency services to locate the site of the incident.
- 5.6. Follow instructions and provide assistance to emergency services personnel during evacuation.
6. Review the incident.
- 6.1. Recognise the possible psychological impacts on self and other rescuers and seek help when required.
- 6.2. Contribute to a review of the first aid response as required.

Foundation Skills

The Foundation Skills describe those required skills (language, literacy, numeracy and employment skills) that are essential to performance.

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

Unit Mapping Information

Supersedes and not equivalent to HLTAID005 Provide first aid in remote situations.

Links

Companion Volume implementation guides are found in VETNet -
<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=ced1390f-48d9-4ab0-bd50-b015e5485705>

Assessment Requirements for HLTAID013 Provide First Aid in remote or isolated site

Modification History

Not applicable.

Performance Evidence

Evidence of the ability to complete tasks outlined in elements and performance criteria of this unit in the context of the workplace or community setting.

There must be evidence that the candidate has completed the following tasks in line with State/Territory regulations, first aid codes of practice, first aid guidelines determined by the Australian Resuscitation Council (ARC) guidelines and workplace or site procedures:

- managed, in line with ARC guidelines, the unconscious, breathing casualty including appropriate positioning to reduce the risk of airway compromise
- managed, in line with ARC guidelines, the unconscious, non-breathing adult including:
 - performing at least 2 minutes of uninterrupted single rescuer cardiopulmonary resuscitation (CPR) (5 cycles of both compressions and ventilations) on an adult resuscitation manikin placed on the floor
 - performing at least 2 minutes of ventilation and at least 2 minutes of compressions during a two-rescuer procedure on an adult resuscitation manikin placed on the floor
 - following the prompts of an automated external defibrillator (AED) to deliver at least one shock
 - responding appropriately in the event of regurgitation or vomiting
 - demonstrating a rotation of operators with minimal interruptions to compressions
- managed, in line with ARC guidelines, the unconscious, non-breathing infant, including:
 - performing at least 2 minutes of uninterrupted single rescuer CPR (5 cycles both compressions and ventilations) on an infant resuscitation manikin placed on a firm surface
- managed casualties, with the following:
 - anaphylaxis
 - asthma
 - non-life-threatening bleeding
 - choking
 - minor wound cleaning and dressing
 - nosebleed
 - shock
 - envenomation, using pressure immobilisation
 - fractures, dislocations, sprains and strains, using appropriate immobilisation techniques for remote situations and appropriate equipment improvisations

- head, neck and spinal injuries
- hypothermia and hyperthermia
- life threatening bleeding requiring use of tourniquets and haemostatic dressings
- responded to at least one simulated first aid incident contextualised to the candidate's workplace or community setting, where the candidate has no knowledge of the casualty's condition prior to starting treatment, including:
 - identifying the casualty's illness or injury through history, signs and symptoms
 - using personal protective equipment (PPE) as required
 - conducting a secondary survey assessment
 - assessing vital signs respirations, pulse, temperature
 - level of consciousness
 - providing appropriate first aid treatment
 - conveying incident details to emergency services or advising casualty on any required post incident action
 - providing an accurate verbal and written report of the incident
 - reviewing the incident
- conducted a basic triage for a multiple casualty incident.

Knowledge Evidence

Demonstrated knowledge required to complete the tasks outlined in elements and performance criteria of this unit:

- guidelines and procedures including:
 - ARC guidelines relevant to the provision of first aid
 - first aid guidelines from Australian national peak clinical bodies including those relevant to remote or isolated sites
 - potential incident hazards and risk minimisation processes when providing first aid
 - infection control procedures, including use of standard precautions and resuscitation barrier devices
 - requirements for currency of skill and knowledge
 - first aid codes of practice
 - appropriate workplace or site procedures relevant to the provision of first aid
 - contents of first aid kits
- legal, workplace and community considerations including:
 - duty of care requirements
 - own skills and limitations
 - consent and how it relates to the conscious and unconscious casualty
 - privacy and confidentiality requirements
 - awareness of potential need for stress management techniques and available support for rescuers
- in relation to the administration of medication

- legal requirements
- the five rights
- the responsibilities of the first aider
- considerations when providing CPR, including:
 - upper airway and effect of positional change
 - appropriate duration and cessation of CPR
 - appropriate use of an AED
 - safety and maintenance procedures for an AED
 - chain of survival
 - how to access emergency services
- techniques for providing CPR to adults, children and infants including:
 - how to recognise that a casualty is unconscious and not breathing normally
 - rate, ratio and depth of compressions and ventilations
 - correct hand positioning for compressions
 - basic anatomy, physiology and the differences between adults, children and infants relating to CPR
- signs, symptoms and management of the following conditions or injuries:
 - allergic reaction
 - anaphylaxis
 - asthma
 - non-life-threatening bleeding
 - burns
 - cardiac conditions, including chest pain
 - choking
 - diabetes
 - drowning
 - envenomation - all current treatments
 - eye injuries
 - fractures, dislocations, sprains and strains
 - head, neck and spinal injuries
 - hypothermia
 - hyperthermia
 - minor wounds
 - nose-bleed
 - poisoning
 - seizures
 - shock
 - sharps injuries
 - stroke
 - life threatening bleeding including use of tourniquets and haemostatic dressings

- considerations when providing first aid including:
 - assessment, interpretation and documentation of vital signs, including normal clinical values for respirations, temperature, pulse and level of consciousness
 - how to conduct a secondary assessment of a casualty
 - basic triage processes
 - ongoing care requirements of casualty beyond initial treatment
- remote considerations in the provision of first aid, including:
 - the nature of remote or isolated sites and how this may impact on first aid management
 - key features, functions and limitations of different types of emergency communication equipment used in remote or isolated sites, and factors that affect choice:
 - radio equipment
 - mobile phones
 - satellite phones
 - alerting and tracking devices including personal locator beacons (PLBs)
 - management options relating to transporting casualty, including aero-medical evacuation
 - specific considerations contextualised to alpine, desert, marine, rural or remote settings and tropical environments
 - methods used to assist emergency services to locate incident sites and the key features, functions and limitations of resources used to assist:
 - verbal directions
 - flags
 - flares or smoke
 - fires
 - use of man-made and natural resources to supplement first aid equipment
 - content of remote area first aid kits
 - content of remote area medication boxes
- psychological impacts of first aid incidents on rescuers and how to seek help.
-

Assessment Conditions

Each candidate to demonstrate skills in an environment that provides realistic in-depth, scenarios and simulations to assess candidates' skills and knowledge.

Scenarios must concentrate on the significance of remote or isolated site circumstances.

Due to the nature of this type of training, it is acceptable for the performance evidence to be collected in a simulated environment.

Compression and ventilation skills must be demonstrated on resuscitation manikins following ARC guidelines for the purpose of assessment of CPR procedures.

Assessment must ensure access to:

- adult and infant resuscitation manikin following ARC guidelines for the purpose of assessment of CPR procedures
- adrenaline auto-injector training device
- AED training devices
- placebo bronchodilator and spacer device
- haemostatic dressings
- haemostatic wound packing trainer
- thermometers
- tourniquets
- tourniquet trainer
- different types of wound dressings and bandages
- blankets and items to manage a casualty for shock
- personal protective equipment (PPE)
- workplace injury, trauma or illness record, or other appropriate workplace or site incident report form, which includes space for recording vital signs of casualties
- remote first aid kits
- immobilisation devices.

Simulated assessment environments must simulate real-life situations where these skills and knowledge would be performed, with all the relevant equipment and resources of that workplace or community environment.

Assessors must satisfy the Standards for Registered Training Organisations' requirements for assessors and must hold this unit or demonstrate equivalent skills and knowledge to that contained within this unit.

Links

Companion Volume implementation guides are found in VETNet -

<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=ced1390f-48d9-4ab0-bd50-b015e5485705>

HLTWHS005 Conduct manual tasks safely

Modification History

Release	Comments
Release 1	This version was released in <i>HLT Health Training Package release 2.0</i> and meets the requirements of the 2012 Standards for Training Packages. Significant changes to the elements and performance criteria. New evidence requirements for assessment, including volume and frequency requirements. Significant change to knowledge evidence.

Application

This unit describes the skills and knowledge required to recognise potentially hazardous manual tasks, and then to prepare for and complete those tasks in a safe manner.

This unit applies to all workers involved in manual handling tasks.

The skills in this unit must be applied in accordance with Commonwealth and State/Territory legislation, Australian/New Zealand standards and industry codes of practice. The Hazardous manual tasks code of practice applies to this work.

Elements and Performance Criteria

ELEMENT

PERFORMANCE CRITERIA

Elements define the essential outcomes

Performance criteria describe the performance needed to demonstrate achievement of the element

1. Identify manual tasks involving risk

1.1 Recognise manual tasks that may involve risk to self or others

1.2 Identify risk factors that make the manual task hazardous

1.3 Determine the nature and extent of the risk

1.4 Follow organisation procedures for controlling

ELEMENT**PERFORMANCE CRITERIA**

Elements define the essential outcomes

Performance criteria describe the performance needed to demonstrate achievement of the element

hazardous manual tasks

2. Prepare for manual tasks

2.1 Prepare workplace layout and environment according to organisation procedures

2.2 Organise task and workflow appropriately

2.3 Prepare and package loads for movement, taking account of specific requirements for different materials and organisation procedures

2.4 Select and use personal protective equipment appropriate to the task

2.5 Ensure task is within personal capabilities

3. Complete manual tasks

3.1 Use appropriate posture and handling techniques to reduce muscle load on exertion

3.2 Select, adjust and use mechanical aids and handling devices according to manufacturers instructions

3.3 Pace and schedule tasks according to procedures

4. Contribute to safe work practices

4.1 Identify hazardous manual tasks and report to supervisor according to organisation procedures

4.2 Follow organisation procedures for reporting symptoms of injury or actual injury to self and others

4.3 Participate in workplace safety activities and contribute to the improvement of manual tasks

4.4 Contribute to risk management approach to reduce risks from manual tasks

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>

Assessment Requirements for HLTWHS005 Conduct manual tasks safely

Modification History

Release	Comments
Release 1	This version was released in <i>HLT Health Training Package release 2.0</i> and meets the requirements of the 2012 Standards for Training Packages. Significant changes to the elements and performance criteria. New evidence requirements for assessment, including volume and frequency requirements. Significant change to knowledge evidence.

Performance Evidence

The 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:

- followed legally compliant workplace procedures to prepare for and complete at least 3 different manual tasks relevant to the work role
- contributed to a consultation process about improving manual handling safety

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:

- key information from work health and safety (WHS) regulations relating to manual tasks and national code of practice
- role and responsibilities of the employer and employees in relation to manual handling safety
- ways in which individual workers are involved in consultation about workplace health and safety
- reporting mechanisms required for workplace injury and compensation claims
- key aspects of the risk management approach to manual tasks
- risk factors and potential sources of risks of hazardous manual tasks:
 - repetition

- forces
- postures
- vibration
- systems of work
- types of manual task activity and the types of injuries that can result
- the relationship between the human body and risk of injury from performing manual tasks
- functions of the human body:
 - basic function of the spine
 - body postures
 - types of muscles
 - principles of levers
- manual handling techniques that support safe work practice:
 - preparing the load/client
 - 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/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 whilst turning
- types and operational features of mechanical aids, tools and equipment

Assessment Conditions

Skills must have been demonstrated in the workplace or in a simulated environment that reflects workplace conditions. The following conditions must be met for this unit:

- use of suitable facilities, equipment and resources, including:
 - compliant workplace procedures
 - materials, loads and equipment as required by the individual workplace
- modelling of industry operating conditions, including:
 - presence of hazards
 - integration of situations requiring problem solving

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>

ICTICT214 Operate application software packages

Modification History

Release	Comments
Release 1	This version first released with ICT Information and Communications Technology Training Package Version 6.0.

Application

This unit describes the skills and knowledge required to identify, select and operate commercial software packages, including a word-processing and a spreadsheet application package.

It applies to individuals who utilise different software applications within a small to large office environment to produce diverse documents.

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

Unit Sector

General ICT

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
1. Prepare to operate software packages	1.1 Set up workstation according to work health and safety standards and organisational requirements 1.2 Determine word-processing software task requirements 1.3 Determine spreadsheet software task requirements 1.4 Determine software application according to task requirements 1.5 Identify document purpose, audience and presentation requirements and clarify with required personnel
2. Use word-processing software	2.1 Identify document purpose, audience and presentation requirements and clarify with required personnel 2.2 Determine text-based business document style guide

ELEMENT	PERFORMANCE CRITERIA
	requirements 2.3 Finalise documents using software and technical functions and formatting according to task requirements 2.4 Name, save and print to a Portable Document Format (PDF) according to task requirements
3. Use spreadsheet software	3.1 Identify document purpose, audience and presentation requirements and clarify with personnel as required 3.2 Enter formulas and functions and customise spreadsheet settings according to task requirements 3.3 Name, save and print to PDF document according to task requirements
4. Use third application software package	4.1 Select software application package according to task requirements 4.2 Determine purpose, audience and presentation requirements 4.3 Use technical functions, other data and formatting to finalise document 4.4 Name, save and print to PDF document according to task requirements

Foundation Skills

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

Skill	Description
Numeracy	- Adds, subtracts, multiplies and divides whole numbers and decimals, identifying and selecting formulas and functions to use - Applies order of operations in calculations
Oral communication	Clarifies work requirements using required language, questioning and active listening techniques
Reading	- Interprets textual information and determines organisational standards and job requirements - Identifies and applies symbols, icons and text associated with applications software
Writing	- Enters both written and verbally received information and data into a format applicable to software application - Selects vocabulary, syntax, terminology, labelling and naming conventions applicable to program
Planning and	Plans routine tasks with goals and outcomes, taking some limited

Skill	Description
organising	responsibility in decisions regarding sequencing
Self-management	Follows routine procedures in using digital technology and enters, stores and retrieves information directly applicable to own role
Technology	- Identifies and evaluates purposes, specific functions and key features of basic digital systems and tools - Operates digital systems and tools in completing routine tasks and adapting some functions

Unit Mapping Information

Supersedes and is equivalent to ICTICT203 Operate application software packages.

Links

Companion Volume Implementation Guide is found on VETNet -
<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=a53af4e4-b400-484e-b778-71c9e9d6aff2>

Assessment Requirements for ICTICT214 Operate application software packages

Modification History

Release	Comments
Release 1	This version first released with ICT Information and Communications Technology Training Package Version 6.0.

Performance Evidence

The candidate must demonstrate the ability to complete the tasks outlined in the elements, performance criteria and foundation skills of this unit, including evidence of the ability to:

- produce three workplace documents using three different software packages including word processing, spreadsheets and one additional software application package on at least one occasion.

In the course of the above, the candidate must:

- apply workplace health and safety (WHS) principles and responsibilities
- follow organisational requirements.

Knowledge Evidence

The candidate must be able to demonstrate knowledge to complete the tasks outlined in the elements, performance criteria and foundation skills of this unit, including knowledge of:

- organisational application software packages
- technical terminology applicable to reading help files and responding to system help prompts
- industry standard business practices applicable to preparing reports using
- features and functions of commercial computing packages and of the industry standard software
- functions and features of Portable Document Formats (PDFs)
- import and export software functions
- document linking functions
- WHS principles and responsibilities
- purpose of input and output devices.

Assessment Conditions

Skills in this unit must be demonstrated in a workplace or simulated environment where the conditions are typical of those in a working environment in this industry.

This includes access to:

- required hardware device
- industry standard software
- documents detailing organisational style guide and policy
- data required in developing software application documents.

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

Links

Companion Volume Implementation Guide is found on VETNet -

<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=a53af4e4-b400-484e-b778-71c9e9d6aff2>

MSL974019 Perform chemical tests and procedures

Modification History

Release	Comments
Release 1	This version was released in <i>MSL Laboratory Operations Training Package Release 2.0</i>. 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.

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

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

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>

Assessment Requirements for MSL974019 Perform chemical tests and procedures

Modification History

Release	Comments
Release 1	This version was released in <i>MSL Laboratory Operations Training Package Release 2.0</i>. 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

- 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.

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>

MSL975040 Apply routine chromatographic techniques

Modification History

Release	Comments
Release 1	This version was released in <i>MSL Laboratory Operations Training Package Release 2.0</i>. Supersedes and equivalent to MSL975009 Apply routine chromatographic techniques. Conditional/optional prerequisite removed – code retained. Changes to elements and performance criteria. Range of conditions removed. Assessment requirements amended.

Application

This unit of competency describes the skills and knowledge to analyse samples using routine chromatographic techniques. The unit also includes establishing client needs for routine and non-routine samples, optimising workplace procedures and instruments for specific samples, obtaining valid and reliable data and reporting test results. Personnel are required to recognise atypical test data/results and troubleshoot common analytical procedure and equipment problems.

This unit applies to laboratory technical officers working in all industry sectors. All operations and analytical methods must comply with relevant standards, appropriate procedures and/or workplace requirements. Although a supervisor may not always be present, the technician will follow standard operating procedures (SOPs) that clearly describe the scope of permitted practice including varying workplace/test procedures and communicating results to people outside the laboratory.

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

MSL974019 Perform chemical tests and procedures

Competency Field

Testing

Elements and Performance Criteria

Elements describe the essential outcomes.

Performance criteria describe the performance needed to demonstrate achievement of the element.

1	Establish client needs and schedule analysis	1.1	Record sample description, compare with specification and record and report any discrepancies
		1.2	Identify non-routine samples and the possible need to vary workplace procedures
		1.3	Seek advice from supervisor about any proposed variations and document all approved changes
		1.4	Schedule analysis using workplace procedures
2	Prepare samples and standards	2.1	Obtain a representative analytical portion of the laboratory sample
		2.2	Prepare sample in accordance with testing requirements
		2.3	Prepare validation checks for analytical portion
3	Set up and optimise instrument	3.1	Perform pre-use and safety checks in accordance with workplace procedures
		3.2	Start up and condition the instrument using workplace procedures
		3.3	Optimise instrumental parameters to suit sample and test requirements
		3.4	Check calibration status of instrument and perform calibration using specified standards and procedures, as required
		3.5	Clean, care for and store equipment and consumables in accordance with workplace procedures

Elements describe the essential outcomes.	Performance criteria describe the performance needed to demonstrate achievement of the element.
4 Perform analysis	4.1 Measure analyte response for standards, validation checks and samples 4.2 Conduct sufficient measurements to obtain reliable data 4.3 Return instruments to standby or shutdown condition, as required
5 Process and analyse data	5.1 Confirm data is the result of valid measurements 5.2 Perform required calculations and ensure results are consistent with standards or estimations and expectations 5.3 Record results with the appropriate accuracy, precision and units 5.4 Analyse trends in data and/or results and report out-of-specification or atypical results promptly to appropriate personnel 5.5 Troubleshoot analytical procedure or equipment problems which have led to atypical data or results
6 Maintain laboratory records	6.1 Record entries on report forms or into a laboratory information management system accurately calculating, recording or transcribing data as required 6.2 Ensure traceability of sample from receipt to reporting of results

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 MSL975009 Apply routine chromatographic techniques, Release 1.

Links

Training Package Companion Volumes -

<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=5c63a03b-4a6b-4ae5-9560-1e3c5f462baa>

Assessment Requirements for MSL975040 Apply routine chromatographic techniques

Modification History

Release	Comments
Release 1	This version was released in <i>MSL Laboratory Operations Training Package Release 2.0</i>. Supersedes and equivalent to MSL975009 Apply routine chromatographic techniques. Conditional/optional prerequisite removed – code retained. Changes to elements and 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:

- prepared samples using at least 3 different processes
- analysed at least 3 different samples using chromatographic techniques to obtain valid and reliable data.

Knowledge Evidence

There must be evidence the candidate has knowledge of:

- chromatographic principles and concepts related to instrumentation operation, material preparation and testing
- use of different chromatographic methods for qualitative and quantitative analysis and preparation of specific samples relevant to job role
- handling of unstable or hazardous chemicals and samples
- functions of key components of the instruments and effects on outputs and results of modifying instrumental variables
- calculation steps to give results in appropriate accuracy, precision, uncertainty and units
- selection of appropriate separation technique, such as suitable substrate and support solvent, buffer, temperature, flow rate, column length and detection method
- routine chromatographic techniques for analytical and preparative procedures
- common test methods
- sample preparation
- principles and purpose of test methods implemented (why they are used and what they demonstrate)
- technological advances that include automation

- workplace procedures for:
 - optimising separation through changing operation parameters
 - equipment troubleshooting techniques
 - basic equipment maintenance
- common procedure and equipment problems:
 - problems with interfering substances
 - poor resolution of peaks
 - inappropriate selection of column or operating parameters (flow rate and temperature)
 - unsuitable substrate or support solvent
 - lack of suitable reference standards
- 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 including traceability, confidentiality and security requirements of all client information, and laboratory data and records.

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 routine chromatographic equipment, laboratory reagents and equipment
 - standard operating procedures (SOPs) and test methods.

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

Links

Training Package Companion Volumes -

<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=5c63a03b-4a6b-4ae5-9560-1e3c5f462baa>

MSL975047 Apply complex instrumental techniques

Modification History

Release	Comments
Release 1	This version was released in <i>MSL Laboratory Operations Training Package Release 2.0</i>. Supersedes and equivalent to MSL975019 Apply complex instrumental techniques. Conditional/optional prerequisite removed. Changes to elements and performance criteria. Range of conditions removed. Assessment requirements amended.

Application

This unit of competency describes the skills and knowledge to analyse samples using specialised analytical instruments that require highly developed technical skills to operate effectively. Competency includes the ability to establish client needs for routine and non-routine samples, optimising workplace procedures and instruments for specific samples, obtaining valid and reliable data and reporting test results. Personnel are required to recognise atypical test data/results and troubleshoot common analytical procedure and equipment problems.

This unit applies to technical officers working in all industry sectors, government agencies and research laboratories. All operations and analytical methods must comply with relevant standards, appropriate procedures and/or workplace requirements. Although a supervisor may not always be present, the technical officer will follow standard operating procedures (SOPs) that clearly describe the scope of permitted practice, including varying workplace/test procedures and communicating results to people outside the laboratory.

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

MSL974019 Perform chemical tests and procedures

Competency Field

Testing

Elements and Performance Criteria

Elements describe the essential outcomes.

Performance criteria describe the performance needed to demonstrate achievement of the element.

1	Establish client needs and schedule analysis	1.1	Liaise with client or sample provider to determine client needs and sample history
		1.2	Record sample description, compare with specification and record and report discrepancies
		1.3	Identify non-routine samples and the possible need to vary workplace procedures
		1.4	Seek advice from supervisor about any proposed variations and document all approved changes.
		1.5	Schedule analysis using workplace procedures
2	Prepare samples and standards	2.1	Obtain a representative analytical portion of the laboratory sample
		2.2	Prepare sample in accordance with testing requirements
		2.3	Prepare validation checks and/or calibration standards for analytical portions
		2.4	Use specialised procedures for ultra-trace samples and standard preparation as required
3	Set up and optimise instrument and sub-systems	3.1	Perform pre-use and safety checks using workplace procedures
		3.2	Assemble appropriate instrument sub-systems to construct the required analytical path
		3.3	Start up and condition the instrument using workplace procedures
		3.4	Check and optimise each instrument sub-system

Elements describe the essential outcomes.		Performance criteria describe the performance needed to demonstrate achievement of the element.	
		3.5	Optimise instrumental parameters to suit sample and test requirements
		3.6	Check calibration status of instrument and perform calibration using specified standards and procedures, as required
		3.7	Clean, care for and store equipment and consumables in accordance with workplace procedures
4	Perform analysis	4.1	Measure analyte response for standards, validation checks and samples
		4.2	Conduct sufficient measurements to obtain reliable data
		4.3	Return instruments to standby or shutdown condition as required
5	Process and analyse data	5.1	Confirm data is the result of valid measurements
		5.2	Perform required calculations and ensure results are consistent with standards or estimations and expectations
		5.3	Record results with the appropriate accuracy, precision, uncertainty and units
		5.4	Analyse trends in data and/or results and report out-of-specification or atypical results promptly to appropriate personnel
		5.5	Troubleshoot analytical procedure or equipment problems which have led to atypical data or results
6	Maintain laboratory records	6.1	Record entries on report forms or into a laboratory information management system accurately calculating, recording or transcribing data as required
		6.2	Ensure traceability of sample from receipt to reporting of results

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 MSL975019 Apply complex instrumental techniques, Release 1.

Links

Training Package Companion Volumes -

<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=5c63a03b-4a6b-4ae5-9560-1e3c5f462baa>

Assessment Requirements for MSL975047 Apply complex instrumental techniques

Modification History

Release	Comments
Release 1	This version was released in <i>MSL Laboratory Operations Training Package Release 2.0</i>. Supersedes and equivalent to MSL975019 Apply complex instrumental techniques. Conditional/optional prerequisite removed. Changes to elements and 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:

- used a specialised analytical instrument to analyse 3 different complex samples and obtain valid and reliable data.

Knowledge Evidence

There must be evidence the candidate has knowledge of:

- principles and concepts associated with a specialised analytical instrument's operation and analytical procedure or test method
- handling of unstable or hazardous chemicals and samples and the fragile and labile nature of biological materials
- sample preparation procedures
- functions of key components and sub-systems of the instrument and the effects on outputs and results of modifying instrumental variables
- specialised analytical instruments
- tests requiring specialised analytical instruments:
 - trace analysis
 - non-destructive testing
 - multi-analyte determination
 - analysis involving high sample throughput
- instrument sub-systems:
 - sample introduction units and auto sampling equipment
 - detectors and signal conditioning units

- temperature control devices, such as cryostats, ovens and thermostat baths
- software control/interface
- workplace procedures for:
 - instrument performance optimisation
 - equipment operation and troubleshooting techniques
 - common analytical procedure and equipment problems, including:
 - sample introduction blockages
 - incomplete atomisation of analyte
 - poor resolution of peaks
 - poor sensitivity
 - calculation steps to give results in appropriate accuracy, precision, uncertainty and units
 - equipment 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 including traceability, confidentiality and security requirements of all client information, and laboratory data and records.

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
 - specialised analytical instruments, laboratory reagents and equipment, standard operating procedures (SOPs) and test methods.

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

Links

Training Package Companion Volumes -

<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=5c63a03b-4a6b-4ae5-9560-1e3c5f462baa>

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

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

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)

- 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

- 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>

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

- 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>

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

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

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.

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

- 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

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>

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

- 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.

Links

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

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

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

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

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:

<i>specifications</i>	• any requirements for testing of atmospheric conditions and ventilation • safety structures and control measures • communications • incident response • equipment which can and cannot be used
<i>Safety structures and control measures</i>	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

- 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>

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

- 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 -

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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

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

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)]

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

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

- 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>

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.

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 -

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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

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

- 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

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

- 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

- 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

- 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>

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

- 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.

Links

Companion Volume implementation guides are found in VETNet -

<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=d1287d36-dff4-4e9f-ad2c-9d6270054027>

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

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

		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.

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

- 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

- 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>

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:

- 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

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

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

Unit Mapping Information

Release 1. New unit. Supersedes and is equivalent to PMC563081 Carry out stock control

Links

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

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.
-

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>

MSMSUP200 Achieve work outcomes

Modification History

Release 1. Supersedes and is equivalent to MSAPMSUP200A Achieve work outcomes

Application

This unit of competency covers the skills and knowledge required to identify and implement actions to achieve workplace targets and to suggest ways to improve processes.

This unit of competency applies to personnel who are required to achieve quality standards and productivity targets within the scope of own job.

This unit of competency applies to an individual working alone or as part of a team or group and working in liaison with other team members and supervisors.

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

Pre-requisite Unit

Nil

Competency Field

Support

Unit Sector

Elements and Performance Criteria

Elements describe the essential outcomes

Performance criteria describe the performance needed to demonstrate achievement of the element

1	Identify key aspects of the process	1.1	Outline the properties of materials/components used in the process
		1.2	Describe the process relevant to own work area

		1.3	Identify the safety and environmental requirements relevant to this process
		1.4	State aspects of this process which require careful monitoring
2	Implement actions to achieve targets	2.1	Identify production targets for own work area and work role
		2.2	Describe techniques used to measure performance against workplace targets/standards
		2.3	Identify factors impacting on achieving targets
		2.4	Identify potential inefficiencies in the process
		2.5	Achieve work outcomes
3	Participate in an improvement activity in accordance with organisation procedures	3.1	Investigate a problem
		3.2	Identify likely causes of problem
		3.3	Suggest options for improvement
		3.4	Discuss a proposed improvement with appropriate people

Foundation Skills

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

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

Range of Conditions

This field allows for different work environments and conditions that may affect performance. Essential operating conditions that may be present (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) are included.

Regulatory framework	The latest version of all legislation, regulations, industry codes of practice and Australian/international standards, or the version specified by the local regulatory authority, must be used, and include one or more of the following: • legislative requirements, including work health and safety (WHS) • industry codes of practice and guidelines • environmental regulations and guidelines • Australian and other standards • licence and certification requirements
Procedures	All operations must be performed in accordance with relevant procedures. Procedures are written, verbal, visual, computer-based or in some other form, and include one or more of the following: • emergency procedures • work instructions • standard operating procedures (SOPs) • safe work method statements (SWMS) • formulas/recipes • batch sheets • temporary instructions • any similar instructions provided for the smooth running of the plant
Routine problems	Routine problems must be resolved by applying known solutions. Routine problems are predictable and include one or more of the following: • non-routine process and quality problems • equipment selection, availability and failure • teamwork and work allocation problems • safety and emergency situations and incidents Known solutions are drawn from one or more of: • procedures • training • remembered experience Non-routine problems must be reported according to according to relevant procedures.

Unit Mapping Information

Release 1. Supersedes and is equivalent to MSAPMSUP200A Achieve work outcomes

Links

Companion Volume implementation guides are found in VETNet -

<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=d1287d36-dff4-4e9f-ad2c-9d6270054027>

Assessment Requirements for MSMSUP200 Achieve work outcomes

Modification History

Release 1. Supersedes and is equivalent to MSAPMSUP200A Achieve work outcomes

Performance Evidence

Evidence required to demonstrate competence in this unit must be relevant to and satisfy the requirements of the elements and performance criteria and must include the ability to:

- identify workplace targets and performance measures
- identify and minimise inefficiencies
- identify and control hazards
- work to achieve targets
- apply known solutions to routine problems
- participate in process improvement teams/activities.

Knowledge Evidence

Evidence must be provided that demonstrates knowledge of:

- organisation procedures, including relevant standard operating procedures (SOPs)
- potential sources of wastage/production inefficiencies
- process, normal operating parameters and product quality to recognise non-standard situations
- criteria for evaluating and selecting improvements, including:
 - benefits
 - costs
 - safety implications
 - limitations of equipment, process and materials.

Assessment Conditions

- The unit should be assessed holistically and the judgement of competence based on a holistic assessment of the evidence.
- The collection of performance evidence:
 - should occur over a range of situations which include typical disruptions to normal, smooth operations

- will typically include a supervisor/third-party report focusing on consistent performance and problem recognition and solving. A supervisor/third-party report must be prepared by someone who has a direct, relevant, current relationship with the person being assessed and who is in a position to form a judgement on workplace performance relevant to the unit of competency
- must include participation in an improvement activity which provides sufficient evidence of the requirements of all the elements and performance criteria
- may use industry-based simulation for all or part of the unit particularly where safety, lack of opportunity or significant cost is an issue.
- Assessment should occur in operational workplace situations. Where this is not possible, or where personal safety or environmental damage are limiting factors, assessment must occur in a sufficiently rigorous simulated environment reflecting realistic operational workplace conditions. This must cover all aspects of workplace performance, including environment, task skills, task management skills, contingency management skills and job role environment skills.
- Assessment in a simulated environment should use evidence collected from one or more of:
 - walk-throughs
 - pilot plant operation
 - demonstration of skills
 - industry based case studies/scenarios
 - ‘what ifs’.
- Knowledge evidence may be collected concurrently with performance evidence (provided a record is kept) or through an independent process, such as workbooks, written assessments or interviews (provided a record is kept).
- Assessment processes and techniques must be appropriate to the language, literacy and numeracy requirements of the work being performed and the needs of the candidate.
- Conditions for assessment must include access to all tools, equipment, materials and documentation required, including relevant workplace procedures, product and manufacturing specifications associated with this unit.
- The regulatory framework will be reflected in workplace policies and procedures and is not required to be independently assessed.
- Foundation skills are integral to competent performance of the unit and should not be assessed separately.
- As a minimum, assessors must satisfy the Standards for Registered Training Organisations 2015 assessor requirements.

Links

Companion Volume implementation guides are found in VETNet -

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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
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
1. Access information	1.1 Identify the need for information 1.2 Request appropriate information

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
	1.3 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.

Unit Mapping Information

Release 2. Supersedes and is equivalent to MSAPMSUP210A Process and record information.

Links

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

Assessment Requirements for 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.

Links

Companion Volume implementation guides are found in VETNet -

<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=d1287d36-dff4-4e9f-ad2c-9d6270054027>

MSMSUP240 Undertake minor maintenance

Modification History

Release 2. Equivalent. Range of conditions removed. Duplication between Performance Evidence and Performance Criteria removed. Assessment conditions updated.

Release 1. Supersedes and is equivalent to MSAPMSUP240A Undertake minor maintenance.

Application

This unit describes the skills and knowledge required to undertake minor maintenance and solve routine problems to procedures. Minor maintenance can include operational maintenance, general cleaning, part removal and part replacement and other activities that do not require a trade qualification.

This unit applies to an individual working alone or as part of a team or group and working in liaison with other shift team members and the control room operator, as appropriate.

No licensing or certification requirements exist at the time of publication. Relevant legislation, industry standards and codes of practice within Australia must also be applied.

Pre-requisite Unit

Nil

Unit Sector

Support

Elements and Performance Criteria

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
1. Identify maintenance requirements	1.1 Identify equipment variations and/or irregularities using observed data and plant records 1.2 Assess the urgency and priority of the situation 1.3 Identify appropriate corrective action 1.4 Identify correct tools and materials 1.5 Assess the impact of the maintenance activity and communicate to

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
	appropriate personnel 1.6 Identify hazards and risk controls 1.7 Identify work permit requirements
2. Prepare for maintenance activity	2.1 Ensure equipment is turned off and isolated according to procedures 2.2 Clear the area of obstructions and hazardous materials 2.3 Obtain appropriate tools, parts, materials and procedures 2.4 Obtain the appropriate work permits and adhere to the requirements 2.5 Communicate the impending maintenance activity to the appropriate personnel
3. Perform maintenance activity	3.1 Access all relevant information 3.2 Undertake maintenance activity according to procedures 3.3 Use tools and maintenance techniques correctly 3.4 Restore equipment to normal working condition 3.5 Leave the work area in a clean and safe condition 3.6 Ensure permits are signed-off as appropriate
4. Test equipment	4.1 Test equipment according to procedures 4.2 Return equipment to service 4.3 Ensure equipment meets normal operating requirements
5. Record maintenance activity	5.1 Complete maintenance logs and/or plant history records 5.2 Report maintenance activity to relevant personnel 5.3 Identify and report outstanding maintenance requirements to relevant personnel

Foundation Skills

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

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

Unit Mapping Information

Release 2. Supersedes and is equivalent to MSAPMSUP240A Undertake minor maintenance.

Links

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

Assessment Requirements for MSMSUP240 Undertake minor maintenance

Modification History

Release 2. Equivalent. Range of conditions removed. Duplication between Performance Evidence and Performance Criteria removed. Assessment conditions updated.

Release 1. Supersedes and is equivalent to MSAPMSUP240A Undertake minor maintenance.

Performance Evidence

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

- undertaken at least 1 minor maintenance activity, including:
 - using available data and records to recognise fault and no-fault conditions in standard and non-standard situations
 - applying operational guidelines and known solutions to correct variations and/or irregularities
 - applying approved hazard control, work permit and safety procedures.
 -

Knowledge Evidence

There must be evidence the candidate has knowledge of:

- principles of operation of the equipment to be maintained
- function and troubleshooting of major internal components and their problems
- appropriate testing procedures and use of equipment for a range of equipment faults
- typical causes of equipment failures and the service conditions which may increase maintenance
- types and nature of maintenance (preventative, predictive, corrective) uses, benefits and limitations
- factors that may affect product quality or production output and appropriate remedies.
-

Assessment Conditions

Skills must have been demonstrated in the workplace or in a simulated environment that reflects workplace conditions and contingencies. The following conditions must be met for this unit:

- use of suitable facilities, equipment and resources, including:

- maintenance documentation, guidelines, procedures and schedules, including data and plant records
- maintenance tools and equipment, including personal protective equipment (PPE).

Links

Companion Volume implementation guides are found in VETNet -

<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=d1287d36-dff4-4e9f-ad2c-9d6270054027>

MSMSUP303 Identify equipment faults

Modification History

Release 1. Supersedes and is equivalent to MSAPMSUP303A Identify equipment faults

Application

This unit of competency covers the skills and knowledge required to plan and carry out checks to identify and deal with equipment faults and to determine solutions.

This unit of competency applies to experienced personnel, such as experienced operators, team leaders or supervisors, who are required to apply knowledge of materials, product purpose and processes to identify and deal with routine and non-routine faults in equipment, propose solutions, carry out solutions within scope of authority and competence and complete logs and reports.

This unit of competency applies to an individual working alone or as part of a team or group and working in liaison with other shift team members and the control room operator, as appropriate.

This unit of competency applies to all work environments and sectors within the industry. It does not include maintenance that would require trade-level skills. It is not intended that this competency would cover maintenance that is carried out in a workshop.

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

Pre-requisite Unit

Nil

Competency Field

Support

Unit Sector

Elements and Performance Criteria

Elements describe the essential outcomes

Performance criteria describe the performance needed to demonstrate achievement of the element

1	Identify scope of operational check	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

	operational range	3.2	Confirm results and findings
		3.3	Identify faults to be dealt with
4	Identify faults and formulate recommendations	4.1	Identify impact of faults on work schedule
		4.2	Record proposals for equipment repair based on faults found, cost/time implications and workplace approval systems
		4.3	Explain proposals to relevant workplace personnel, including any options and recommendations
		4.4	Take appropriate action to return equipment to full operation in accordance with procedures

Foundation Skills

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

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

Range of Conditions

This field allows for different work environments and conditions that may affect performance. Essential operating conditions that may be present (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) are included.

Regulatory framework

The latest version of all legislation, regulations, industry codes of practice and Australian/international standards, or the version specified by the local regulatory authority, must be used, and include one or more of the following:

- legislative requirements, including work health and safety (WHS)
- industry codes of practice and guidelines
- environmental regulations and guidelines
- Australian and other standards
- licence and certification requirements

Procedures All operations must be performed in accordance with relevant procedures.

Procedures are written, verbal, visual, computer-based or in some other form, and include one or more of the following:

- emergency procedures
- work instructions
- standard operating procedures (SOPs)
- safe work method statements (SWMS)
- formulas/recipes
- batch sheets
- temporary instructions
- plant description manuals
- manufacturer instructions and specifications
- service manuals
- machine circuit diagrams for hydraulic/pneumatic and electrical/electronic circuits
- any similar instructions provided for the smooth running of the plant

Tools and equipment Tools and equipment include one or more of the following:

- hand tools specific for the task
- product testing equipment (e.g. flowmeter, scales, tape measure, micrometer, calliper and ultrasonic thickness)
- equipment checking equipment (e.g. vibration meter, tachometer, current tester, thermal imaging and temperature gauge)

Hazards Hazards include one or more of the following:

- rotating and moving machinery
- process materials, solids, fluids and gases under pressure or flowing
- temporary connections or by-passes
- electrical, hydraulic or pneumatic energy sources
- out-of-specification operation
- smoke, darkness and heat
- heat, smoke, dust or other atmospheric hazards
- electricity
- gas
- gases and liquids under pressure
- structural hazards
- structural collapse
- equipment failures

- industrial (machinery, equipment and product)
- equipment or product mass
- noise, rotational equipment or vibration
- limited head spaces or overhangs
- working at heights, in restricted or confined spaces, or in environments subjected to heat, noise, dusts or vapours
- fire and explosion
- flammability and explosivity
- hazardous products and materials
- unauthorised personnel
- sharp edges, protrusions or obstructions
- slippery surfaces, spills or leaks
- extreme weather
- other hazards that might arise

Faults

Faults may arise from routine and non-routine causes and must be resolved by applying operational knowledge to apply existing, or develop new solutions, either individually or in collaboration with relevant experts to:

- determine faults needing action
- determine possible fault causes
- develop solutions to faults which do not have a known solution
- follow through items initiated until final resolution has occurred
- report faults outside area of responsibility/expertise to designated person

Non-routine faults are unexpected faults, or variations of previous faults and are associated with one or more of the following:

- out-of-specification product or variations
- response of equipment to materials variations
- new or changed materials
- changed equipment settings (e.g. higher speed or throughput)
- equipment breakdown or in need of maintenance

Operational knowledge includes one or more of the following:

- procedures
- training
- technical information such as journals, engineering specifications
- remembered experience
- relevant knowledge obtained from appropriate people

Variables	Key variables to be monitored include one or more of the following: • equipment performance (e.g. speed, output and variations) • equipment component performance • sequences and timing of operations • materials changes (desired and not desired)
Sources of information and data	Sources of information and data include one or more of the following: • plant data • log sheets • operational and performance reports • physical aspects, such as noise, smell, feel and pressure condition monitoring information • planned maintenance schedules • procedures

Unit Mapping Information

Release 1. Supersedes and is equivalent to MSAPMSUP303A Identify equipment faults

Links

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

Assessment Requirements for MSMSUP303 Identify equipment faults

Modification History

Release 1. Supersedes and is equivalent to MSAPMSUP303A Identify equipment faults

Performance Evidence

Evidence required to demonstrate competence in this unit must be relevant to and satisfy the requirements of the elements and performance criteria and must include the ability to:

- check and identify a fault within an item of equipment/plant
- ensure workplace is safe for checking and maintenance of equipment
- communicate effectively with personnel and all levels
- evaluate the impact of fault in terms of work schedule, cost/time and approvals needed and make recommendations for repairs
- apply operational knowledge to non-routine problems
- take appropriate action within scope of authority in accordance with procedures.

Knowledge Evidence

Evidence must be provided that demonstrates knowledge of:

- organisation procedures, including:
 - work permit systems
 - safety, emergency and hazard control
 - standard operating procedures (SOPs)
- hazards that may arise in the job/work environment, including:
- their possible causes
- potential consequences
- appropriate risk controls/ hierarchy of control
- principles of the operation of the equipment to be maintained:
 - operating principles for mechanical, hydraulic, pneumatic and electrical/electronic systems
 - functions and troubleshooting of internal components and their problems
 - routine and non-routine causes of equipment failures and the service conditions which may increase maintenance
- types and application of testing procedures and equipment.

Assessment Conditions

- The unit should be assessed holistically and the judgement of competence based on a holistic assessment of the evidence.

- The collection of performance evidence:
 - should occur over a range of situations which include typical disruptions to normal, smooth operations
 - will typically include a supervisor/third-party report focusing on consistent performance and problem recognition and solving. A supervisor/third-party report must be prepared by someone who has a direct, relevant, current relationship with the person being assessed and who is in a position to form a judgement on workplace performance relevant to the unit of competency
 - must include the use of appropriate tools, equipment and safety gear requiring demonstration of preparation, operation, completion and responding to problems
 - may use industry-based simulation for all or part of the unit particularly where safety, lack of opportunity or significant cost is an issue.
- Assessment should occur in operational workplace situations. Where this is not possible, or where personal safety or environmental damage are limiting factors, assessment must occur in a sufficiently rigorous simulated environment reflecting realistic operational workplace conditions. This must cover all aspects of workplace performance, including environment, task skills, task management skills, contingency management skills and job role environment skills.
- Assessment in a simulated environment should use evidence collected from one or more of:
 - walk-throughs
 - pilot plant operation
 - demonstration of skills
 - industry-based case studies/scenarios
 - ‘what ifs’.
- Knowledge evidence may be collected concurrently with performance evidence (provided a record is kept) or through an independent process, such as workbooks, written assessments or interviews (provided a record is kept).
- Assessment processes and techniques must be appropriate to the language, literacy and numeracy requirements of the work being performed and the needs of the candidate.
- Conditions for assessment must include access to all tools, equipment, materials and documentation required, including relevant workplace procedures, product and manufacturing specifications associated with this unit.
- The regulatory framework will be reflected in workplace policies and procedures and is not required to be independently assessed.
- Foundation skills are integral to competent performance of the unit and should not be assessed separately.
- As a minimum, assessors must satisfy the Standards for Registered Training Organisations 2015 assessor requirements.

Links

Companion Volume implementation guides are found in VETNet -

<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=d1287d36-dff4-4e9f-ad2c-9d6270054027>

MSMSUP390 Use structured problem-solving tools

Modification History

Release 2. Equivalent. Minor edits for improved clarity. Range of conditions removed.

Release 1. Supersedes and is equivalent to MSAPMSUP390A Use structured problem-solving tools.

Application

This unit describes the skills and knowledge required to use structured process improvement tools to solve process and other problems. It describes the broad application of in-depth and rigorous structured problem-solving techniques to identify opportunities for improvement.

This unit applies to experienced operators, team leaders, supervisors or people in similar roles who are required to identify improvements and/or solve problems beyond those associated directly with the process unit and/or equipment.

This unit applies to an individual working alone or as part of a team or group and working in liaison with other shift team members and the control room operator, as appropriate.

This unit of competency applies to all work environments.

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

Pre-requisite Unit

Nil

Unit Sector

Support

Elements and Performance Criteria

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
1. Identify the problem	1.1 Identify variances from desired operating and/or output parameters and quality 1.2 Define the extent, cause and nature of the problem by observation

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
	and investigation 1.3 State and specify the problem clearly
2. Determine fundamental cause of problem	2.1 Select problem-solving tool appropriate to the problem and the context 2.2 Identify possible causes based on experience and the use of problem-solving tools and analytical techniques 2.3 Develop possible cause statements 2.4 Determine fundamental cause
3. Determine corrective action	3.1 Determine all possible options for resolution of the problem 3.2 Identify strengths and weaknesses of possible options 3.3 Determine corrective action to remove the problem and possible future causes 3.4 Develop implementation plans identifying measurable objectives, resource needs and timelines in accordance with safety and operating procedures 3.5 Develop recommendations for ongoing monitoring and testing
4. Communicate recommendations	4.1 Prepare report on recommendations 4.2 Present recommendations to appropriate personnel 4.3 Follow up recommendations

Foundation Skills

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

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

Unit Mapping Information

Release 2. Supersedes and is equivalent to MSAPMSUP390A Use structured problem-solving tools

Links

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

Assessment Requirements for MSMSUP390 Use structured problem-solving tools

Modification History

Release 2. Equivalent. Minor edits for improved clarity. Range of conditions removed.

Release 1. Supersedes and is equivalent to MSAPMSUP390A Use structured problem-solving tools.

Performance Evidence

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

- identified at least 1 problem
- analysed problem using at least 1 analysis tool drawn from each of 2 different groups of tools (basic, visual, process, business and organisation specific)
- selected the preferred solution
- developed and used an implementation plan, that includes:
 - specific, measurable, achievable, relevant, timed (SMART) objectives
 - resource requirements
 - methods for reaching objectives
 - timelines
 - methods of checking and adjusting adherence to plan
- communicated effectively with other personnel.
-

Knowledge Evidence

There must be evidence the candidate has knowledge of:

- relevant organisation procedures
- risks, risk assessment and controls relevant to problem being analysed
- targets and measures for output and quality
- types and application of problem-solving tools and analytical techniques
- relevant equipment and operational processes.
-

Assessment Conditions

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

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

Links

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

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

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:

- 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

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>

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

- 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>

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

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)

		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

- 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

- 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,

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>

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.

- 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>

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.

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

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

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

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>

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.

- 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>

MSMWS216 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

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

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

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

Links

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

Assessment Requirements for 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:

- 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>

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

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

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)

- 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

- 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>

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).

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>

MSS402061 Use SCADA systems in operations

Modification History

Release 1. Supersedes and is equivalent to MSS402061A Use SCADA systems in operations

Application

This unit of competency covers the skills and knowledge required by an individual to interact with a System Control and Data Acquisition (SCADA) system as part of their job.

This unit applies to an individual in an organisation using a SCADA system and the individual must interface with that system. The individual will need to access this system as part of their routine and take actions based on the information they obtain from the SCADA system in accordance with procedures.

This unit requires the application of skills associated with using communication tools and technology for management of own work, planning and problem solving.

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	Use operator interface	1.1	Identify SCADA terminals relevant to own workstation and functions.

		1.2	Use keyboards, track ball, monitor and/or stand-alone controllers to access/interrogate system.
		1.3	Use correct level of access and find all relevant screens and information.
		1.4	Access message section and acknowledge messages.
		1.5	Input and output information correctly according to program and organisation requirements.
2	Use information	2.1	Obtain data and information from SCADA, as required, including process, supply and product chain data.
		2.2	Interpret data and information as required by own job.
		2.3	Find and use relevant historical data and information.
		2.4	Use manufacturer manuals or specifications, as required, to expand knowledge of SCADA system relevant to own work.
		2.5	Determine and prioritise required actions.
3	Make required changes in accordance with procedures	3.1	Adjust production/process in response to SCADA information.
		3.2	Record adjustments and variations to specifications/schedules and report to appropriate personnel.
		3.3	Seek feedback and information on adjustments to further improve procedures, where 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
- 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.

Unit Mapping Information

Release 1. Supersedes and is equivalent to MSS402061A Use SCADA systems in operations

Links

Companion Volume implementation guides are found in VETNet -

<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=5b04f318-804f-4dc0-9463-c3fb9a3fe998>

Assessment Requirements for MSS402061 Use SCADA systems in operations

Modification History

Release 1. Supersedes and is equivalent to MSS402061A Use SCADA systems in 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 include the ability, for three (3) or more adjustments to production/process utilising SCADA information, to:

- identify scope and relevance of SCADA system to own work
- access correct levels of SCADA system
- enter and retrieve data, including normal performance and variations
- use SCADA system to assist in own work.

Knowledge Evidence

Must provide evidence that demonstrates knowledge relevant to their job role sufficient to fulfil their job role under routine only supervision, including:

- hierarchy of SCADA system and operation
- available information from, and controls exercised by, SCADA system.

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 use of SCADA systems 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>

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.

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.

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

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>

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.

- 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>

PMAOMIR210 Control evacuation to muster point

Modification History

Release 1. Supersedes and is equivalent to PMAOMIR210B Control evacuation to muster point

Application

This unit of competency covers the skills and knowledge required to coordinate and control evacuation to a designated muster point.

This unit of competency applies to operators who are required to assess an incident; prepare for and control evacuation, including people requiring assistance; conduct head counts; respond to first aid and other needs of evacuees; and maintain communications and safety throughout these activities.

Generally the person would be part of a team during the incident but may be required to act independently. At all times they would be liaising and cooperating with other members of the team.

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

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 **Prepare to evacuate**

1.1 Recognise alarm or other signs of incident

1.2 Determine nature and location of incident, wind

- direction and other relevant information
 - 1.3 Assess incident situation and instigate relevant procedure
 - 1.4 Predict probable changes/escalation to incident
 - 1.5 Prepare the area and personnel for evacuation
 - 1.6 Facilitate incident roles and the operation of incident response stations according to procedures
 - 1.7 Coordinate incident response actions according to procedures
 - 1.8 Maintain communication channels with relevant personnel
- 2 **Control evacuation**
- 2.1 Identify hazards associated with evacuation
 - 2.2 Identify and communicate most appropriate path for evacuation to the desired muster point
 - 2.3 Implement relevant hazard control procedures
 - 2.4 Initiate evacuation when appropriate
 - 2.5 Ensure evacuation of mobility/sensory-impaired people
 - 2.6 Control incident evacuation according to procedures
 - 2.7 Undertake roll call of evacuated persons
 - 2.8 Communicate required details of evacuation to relevant personnel
- 3 **Complete evacuation**
- 3.1 Arrange and coordinate the first aid, welfare and other needs of evacuated persons
 - 3.2 Maintain control over evacuees
 - 3.3 Arrange for/provide assistance to the incident controller as required
 - 3.4 Maintain communication channels with relevant personnel

- 3.5 Move evacuees to a new location, or dismiss and return to work
- 3.6 Debrief evacuees and seek possible improvements
- 3.7 Complete all required records and reporting
- 3.8 Make recommendations for improvements to be incorporated into 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.

Tools and Tools and equipment include one or more of the following:

- equipment**
- hard hats
 - armbands
 - torches
 - smoke hoods
 - lifejackets
 - incident communications equipment
 - check lists and floor plans

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
- 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:

- spread of fire
- threat to adjoining areas
- danger of explosion
- loss of communications
- falling or shifting debris
- obstruction of evacuation routes
- heat, smoke, darkness, 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
- 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 PMAOMIR210B Control evacuation to muster point

Links

Companion Volume implementation guides are found in VETNet -
<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=9fc2cf53-e570-4e9f-ad6a-b228ffdb6875>

Assessment Requirements for PMAOMIR210 Control evacuation to muster point

Modification History

Release 1. Supersedes and is equivalent to PMAOMIR210B Control evacuation to muster point

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:

- assess incident situation, related hazards and likely changes/escalation and apply procedures
- coordinate people and activities to effect evacuation according to procedures
- monitor and account for evacuees
- respond to needs of evacuees, including those who are injured, impaired and/or require other support
- communicate effectively with evacuees, incident controller and other personnel under stress
- complete forms and records.

Knowledge Evidence

Evidence must be provided that demonstrates knowledge of:

- organisational procedures, including those covering:
 - safety, hazards and hazard control
 - incident, fire and accident
 - emergency response plans
 - communication systems
- hazards that may arise in an incident and risk controls
- accounting procedures and analysis of reports from evacuation areas
- types of first aid and welfare responses available in an emergency.

Assessment Conditions

- The unit should be assessed holistically and the judgement of competence based on a holistic assessment of the evidence.
- Typically this evidence might be expected to be collected during an emergency drill.
- 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 evacuation and mustering procedures
- 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

- 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>

PMAOMIR346 Assess and secure an incident site

Modification History

Release 1. Supersedes and is equivalent to PMAOMIR346B Assess and secure an incident site

Application

This unit of competency covers the skills and knowledge required to ensure an incident site is rendered safe and kept secure.

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 performing an incident team leader or similar role who are required to make initial assessment of an incident site, secure and preserve the scene, isolate the area to prevent secondary incidents, record details about the incident area, take statements from witnesses and manage the scene until authorities arrive.

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 team members and the incident coordinator/commander, as appropriate.

The incident team leader typically responds to the incident coordinator/commander, who may be stationed in the incident control centre. In a typical scenario, following the occurrence of an incident, the person would take action to ensure the immediate incident site is safe and take steps to maintain facility safety, record details of the scene and preserve it from contamination. The person may also be required to manage the scene pending the arrival of appropriate authority or company representatives, as required by company procedures, legislation or regulations.

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	Secure and preserve the scene	1.1	Undertake an initial assessment of the site to identify factors which will impact on safety and scene preservation
		1.2	Ensure that secondary incidents are prevented by isolating the site from associated or ancillary processes
		1.3	Coordinate arrangements to secure the incident/accident site to preserve the site and maintain the safety of personnel in line with procedures
		1.4	Restrict access to the site until the arrival of authorised company or external authority representatives
2	Record details of the incident site	2.1	Record details of the scene according to the organisation's policies and procedures

		2.2	Note the status of any equipment in the incident area
		2.3	Communicate information to relevant personnel in line with procedures
3	Gather information	3.1	Record witness details and note any information given in accordance with procedures
		3.2	Take statements from witnesses and record details of persons believed to be near the site prior to or during the incident
		3.3	Develop an initial timeline of events leading up to the incident
4	Ensure safety when responding to an incident	4.1	Identify hazards
		4.2	Assess the risks arising from those hazards
		4.3	Implement measures to control those risks in line with procedures and duty of care
5	Respond to problems	5.1	Identify possible problems in equipment or process
		5.2	Determine which problems need action
		5.3	Determine possible fault causes
		5.4	Rectify problems using solutions within area of responsibility
		5.5	Follow through items initiated until final resolution has occurred
		5.6	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.

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 and tools Equipment and tools include one or more of the following:

- note taking materials

- standard forms
- sketching materials
- photographic equipment
- taping or electronic videoing equipment
- non-sparking or radio transmission equipment (where safety permits)

Problems Problems in equipment or process include one or more of the following:

- rescue equipment and/or personnel contaminating the site
- loss of/difficulties in maintaining communications

Record details Recording details and information requires accuracy and includes one or more of the following:

- capturing the exact words used vs summarising/paraphrasing
- noting conditions (like weather)
- taking photos
- diagrams/sketches
- noting the time of events and discussions
- own actions taken

Hazards Hazards include one or more of the following:

- explosive atmospheres
- inherent site dangers from debris or damaged equipment
- weakened structures
- heat, smoke, darkness, 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
- 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

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

Unit Mapping Information

Release 1. Supersedes and is equivalent to PMAOMIR346B Assess and secure an incident site

Links

Companion Volume implementation guides are found in VETNet -
<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=9fc2cf53-e570-4e9f-ad6a-b228ffdb6875>

Assessment Requirements for PMAOMIR346 Assess and secure an incident site

Modification History

Release 1. Supersedes and is equivalent to PMAOMIR346B Assess and secure an incident site

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:

- secure the site to preserve and maintain safety of personnel and restricted access
- prioritise the safety and/or successful recovery of persons
- ensure that actions do not inhibit incident response effectiveness or further contribute to the incident
- complete reports and records
- accurately record witness statements and incident and site conditions
- communicate effectively with survivors, emergency personnel and others in stressful environments
- react appropriately under stress.

Knowledge Evidence

Evidence must be provided that demonstrates knowledge of:

- organisational procedures, including those covering:
 - incident, fire and accident response
 - incident, fire and accident reporting and investigation
 - communication systems
 - emergency response plans
 - reporting requirements
- hazards that may arise in the job/work environment, and:
 - their possible causes
 - potential consequences
 - risks
 - appropriate risk controls
- methods of securing an incident site
- techniques for removing survivors and non-survivors from an incident site
- types of information which may assist in investigations
- techniques for recording information
- problem-solving techniques.

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 securing an 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
 - 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>

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.

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

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

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

- 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>

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

- 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

- 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>

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.

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

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

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

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>

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.

- 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

- 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>

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.

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

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.

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
-

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

- 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>

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

- 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

- 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>

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.

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

		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

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

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

- 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>

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

- 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:

- 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>

PMAOMIR512 Establish incident response preparedness and response systems

Modification History

Release 1. Supersedes and is equivalent to PMAOMIR512B Establish incident response preparedness and response systems

Application

This unit of competency covers the skills and knowledge required to develop and establish incident response preparedness and response systems.

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 management team members who are required to gather strategic operational and risk information, seek input from stakeholders and specialist services, as required, and translate that into a framework of management and operational systems which enable organisation personnel to effectively prepare for and respond to an incident.

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.

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	Clarify the requirements for incident preparedness and response systems	1.1	Access, interpret and clarify the legislative and statutory requirements and standards related to incident preparedness and response systems
		1.2	Access, interpret and clarify the site requirements relating to systematic analysis of hazards, technical and operational information
		1.3	Consult and collaborate with relevant stakeholders, specialists and emergency services, as necessary and in accordance with legislative requirements
2	Design incident response plans and systems	2.1	Develop an organisational structure for the management of incident preparedness and response from an analysis of relevant technical and operational information
		2.2	Establish incident response procedures for management of decision-making processes and decision monitoring systems
		2.3	Develop incident response procedures for the containment of various types of incidents from an analysis of relevant technical and operational information
		2.4	Identify and develop required management and operational systems to support incident preparedness and

		response in compliance with legislative and site requirements
	2.5	Build processes for evaluation into the plan and system and comply with legislative requirements and/or special site needs
	2.6	Ensure all aspects of the plan are consistent with commitments to health, safety and environment (HSE)
	2.7	Review the plan and systems in conjunction with relevant stakeholders and specialists
3	Manage the implementation of the incident preparedness plan and response systems	3.1 Document and disseminate plans and systems to the appropriate personnel 3.2 Identify required services, personnel, equipment and resources for various types of incidents 3.3 Ensure arrangements are made to ensure required services, personnel, equipment and resources are ready for immediate mobilisation/deployment
4	Ensure periodic and timely evaluation of the incident preparedness plans and response systems	4.1 Encourage, receive and review suggestions and recommendations for changes to incident preparedness plans and response systems and, where appropriate, assist with implementation 4.2 Initiate and conduct evaluations as prescribed by the plan and in accordance with commitment to HSE and legislative 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 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.

Management and operational systems

Management and operational systems to support incident preparedness and response include one or more of the following:

- evacuation
- emergency operations structure
- communications
- information management
- documentation and reporting requirements
- resource management
- training
- audit and review system
- financial management
- post incident actions

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
- 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

Specialist services

Specialist services appropriate to the management and operational systems must be consulted. Specialist services include one or more of the following:

- fire brigade
- ambulance
- medical services
- local emergency management organisations
- media

- security services
- solicitors
- engineers
- scientists

Unit Mapping Information

Release 1. Supersedes and is equivalent to PMAOMIR512B Establish incident response preparedness and response systems

Links

Companion Volume implementation guides are found in VETNet -
<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=9fc2cf53-e570-4e9f-ad6a-b228ffdb6875>

Assessment Requirements for PMAOMIR512 Establish incident response preparedness and response systems

Modification History

Release 1. Supersedes and is equivalent to PMAOMIR512B Establish incident response preparedness and 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:

- collect and analyse information to identify organisation and legislative requirements for incident response and related systems
- communicate and consult with internal and external stakeholders and relevant specialist services
- facilitate and manage the development, introduction and operation of incident response and related systems
- facilitate evaluation of the systems (and make recommendations for improvements/implement improvements)
- write strategies, tactics and procedures
- develop containment strategies.

Knowledge Evidence

Evidence must be provided that demonstrates knowledge of:

- regulatory framework and specific compliance requirements that apply to the organisation
- 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
- types of incidents that can arise in the work environment and related risks, responses and equipment
- the role of stakeholders and specialists
- incident response and disaster planning processes and techniques
- incident resources and how to access them

- hazard identification and control methods and procedures
- risk management principles and techniques
- structure, roles, capabilities and operational limitations of external resources and agencies
- rescue techniques
- intervention and control techniques for heating, fires and explosions
- insurance policies and considerations
- economic impact and considerations.

Assessment Conditions

- The unit should be assessed holistically and the judgement of competence based on a holistic assessment of the evidence.
- Performance evidence must include the development of containment strategies for at least two (2) different types of incident, the collection of which 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

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>

PMAOPS223 Operate and monitor valve systems

Modification History

Release 1. Supersedes and is equivalent to PMAOPS223B Operate and monitor valve systems

Application

This unit of competency covers the skills and knowledge required to operate and monitor valves and ancillary equipment as part of controlling a process.

The valves covered by this unit of competency may be part of a hydrocarbons transport pipeline, gas distribution network or similar process.

This unit of competency applies to operators who are required to operate, monitor and maintain the equipment using relevant procedures and identify operational problems and take appropriate action.

This unit of competency applies to an individual who may work alone although under routine direction and supervision. They may work as part of a team or group and will work 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	Prepare for work	<table border="0"><tr><td style="vertical-align: top; padding-right: 10px;">1.1</td><td>Receive and give shift handover</td></tr><tr><td style="vertical-align: top; padding-right: 10px;">1.2</td><td>Identify work requirements</td></tr><tr><td style="vertical-align: top; padding-right: 10px;">1.3</td><td>Identify and control hazards</td></tr><tr><td style="vertical-align: top; padding-right: 10px;">1.4</td><td>Coordinate with appropriate personnel</td></tr><tr><td style="vertical-align: top; padding-right: 10px;">1.5</td><td>Check for recent work undertaken on plant item</td></tr><tr><td style="vertical-align: top; padding-right: 10px;">1.6</td><td>Note any outstanding/incomplete work</td></tr><tr><td style="vertical-align: top; padding-right: 10px;">1.7</td><td>Check operational status of equipment</td></tr></table>	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 plant item	1.6	Note any outstanding/incomplete work	1.7	Check operational status of equipment
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1.5	Check for recent work undertaken on plant item															
1.6	Note any outstanding/incomplete work															
1.7	Check operational status of equipment															
2	Operate valve systems in accordance with procedures	<table border="0"><tr><td style="vertical-align: top; padding-right: 10px;">2.1</td><td>Identify the type of valves and valve systems</td></tr><tr><td style="vertical-align: top; padding-right: 10px;">2.2</td><td>Operate ancillary equipment</td></tr><tr><td style="vertical-align: top; padding-right: 10px;">2.3</td><td>Adjust valves and valve systems as appropriate to type and duty</td></tr><tr><td style="vertical-align: top; padding-right: 10px;">2.4</td><td>Complete routine checks, logs and paperwork, taking action on unexpected observations, readings and trends</td></tr><tr><td style="vertical-align: top; padding-right: 10px;">2.5</td><td>Check the valve operational integrity to minimise the risk of valve leakages and failures</td></tr></table>	2.1	Identify the type of valves and valve systems	2.2	Operate ancillary equipment	2.3	Adjust valves and valve systems as appropriate to type and duty	2.4	Complete routine checks, logs and paperwork, taking action on unexpected observations, readings and trends	2.5	Check the valve operational integrity to minimise the risk of valve leakages and failures				
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2.4	Complete routine checks, logs and paperwork, taking action on unexpected observations, readings and trends															
2.5	Check the valve operational integrity to minimise the risk of valve leakages and failures															
3	Recognise and take action on abnormal situations in accordance with procedures	<table border="0"><tr><td style="vertical-align: top; padding-right: 10px;">3.1</td><td>Monitor valves and valve systems frequently and critically throughout shift using measured/indicated data and senses</td></tr><tr><td style="vertical-align: top; padding-right: 10px;">3.2</td><td>Regulate or alter valve sequences to control the flow rates of fluid during the process to meet changing production conditions and demands</td></tr><tr><td style="vertical-align: top; padding-right: 10px;">3.3</td><td>Identify impacts of any changes upstream and downstream</td></tr><tr><td style="vertical-align: top; padding-right: 10px;">3.4</td><td>Recognise situations which may require action</td></tr><tr><td style="vertical-align: top; padding-right: 10px;">3.5</td><td>Resolve routine problems</td></tr><tr><td style="vertical-align: top; padding-right: 10px;">3.6</td><td>Take actions on other abnormal situations to make safe and have the situation resolved</td></tr></table>	3.1	Monitor valves and valve systems frequently and critically throughout shift using measured/indicated data and senses	3.2	Regulate or alter valve sequences to control the flow rates of fluid during the process to meet changing production conditions and demands	3.3	Identify impacts of any changes upstream and downstream	3.4	Recognise situations which may require action	3.5	Resolve routine problems	3.6	Take actions on other abnormal situations to make safe and have the situation resolved		
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3.4	Recognise situations which may require action															
3.5	Resolve routine problems															
3.6	Take actions on other abnormal situations to make safe and have the situation resolved															

4	Isolate and de-isolate valves	4.1	Isolate valves and valve systems
		4.2	Make safe for required work
		4.3	Check valves and valve systems are ready to be returned to service
		4.4	De-isolate and prepare valves and valve systems 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 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:

- 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

Routine problems

Routine problems must be resolved by applying known solutions.

Routine problems are predictable and include one or more of the following:

- vibration/resonance
- blockages/hydrates
- valve seat wear

- valve seal leakage
- valve stem leakage
- mechanical failure (e.g. plug/gate)
- valve sticking

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.

Action	Action in accordance with procedures 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
Operate	Operate is to monitor, adjust/change the plant item/unit/system to meet specifications, 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
Valves	Valves include one or more of the following: • globe, butterfly, ball and gate valves • control valves • isolation valves • non-return or check valves • pressure relief valves Valve actuation includes one or more of the following: • pneumatic • hydraulic • electrical

- manual

Ancillary equipment

Ancillary equipment includes one or more of the following:

- shutdown systems
- hydraulic power units

Unit Mapping Information

Release 1. Supersedes and is equivalent to PMAOPS223B Operate and monitor valve systems

Links

Companion Volume implementation guides are found in VETNet -

<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=9fc2cf53-e570-4e9f-ad6a-b228ffdb6875>

Assessment Requirements for PMAOPS223 Operate and monitor valve systems

Modification History

Release 1. Supersedes and is equivalent to PMAOPS223B Operate and monitor valve 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:

- operate and adjust valves to meet job specifications
- undertake operational maintenance according to procedures
- recognise early warning signs of equipment/processes needing attention or with potential problems
- determine the most likely cause of routine problems
- take appropriate action to ensure a timely return to full performance
- isolate and de-isolate equipment
- identify hazards and apply hazard control procedures.

Knowledge Evidence

Evidence must be provided that demonstrates knowledge of:

- valve equipment operating parameters, such as pressures, temperatures and flows
- flow volume calculations
- flow velocity calculations
- relevant process material properties such as fluid corrosive properties, fluid erosive properties
- principles of operation of valves
- physics and chemistry relevant to the valves and the materials processed
- routine problems, faults and their resolution
- relevant alarms and actions
- correct methods of operating and controlling valves
- types and causes of problems within operator's scope of skill level and responsibility
- 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 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 appropriate industrial valves applicable to this unit
 - 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.
- 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>

PMAOPS315 Operate and troubleshoot process control systems

Modification History

Release 1. Unit code and title changed. Application and Performance Criteria changed. Range of Conditions removed. Assessment Requirements changed. Supersedes and is equivalent to PMAOPS305 Operate process control systems.

Application

This unit describes the skills and knowledge required to operate a centralised control panel, such as distributed control system (DCS) type controls, to control and monitor multiple vessels, plant items and/or products. It is typically located on-site but off-plant in a control room, but may also be off-site. It may use a range of control algorithms and multiple control loops and include other local controllers that are integral to its operation.

This unit applies to autonomous operators who have overall responsibility for the operation of all units of equipment covered by the control system/portion of the control system they operate. They would take a leading role in liaising and cooperating with other members of the team, including 'outside operators'. However, this unit does not preclude the situation where the panel operator may also undertake 'outside' 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

Operations

Elements and Performance Criteria

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
1. Operate process control system according to procedures	1.1 Receive and give shift handover 1.2 Communicate with personnel to identify and coordinate work requirements 1.3 Identify, control and report hazards

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
	1.4 Check for recent work undertaken on plant units being controlled and address outstanding and incomplete work 1.5 Check operational status of process control system
2. Use operator interface	2.1 Use human interface devices (HIDs) to access control system 2.2 Monitor the process using the operator interfaces 2.3 Select controller modes 2.4 Acknowledge messages and alarms
3. Access control information	3.1 Obtain current and historical data and information from the control system by applying systems knowledge 3.2 Identify the status of individual pieces of equipment from the control panel and use information to identify potential faults 3.3 Minimise fluctuations and variations in process through the interpretation of existing trends and control schematics 3.4 Record process variations and irregularities to procedures
4. Control process variations and monitor operations	4.1 Use historical data to assist in the identification of abnormal situations 4.2 Process available information to identify potential faults 4.3 Undertake required set point and output changes to meet plant and process requirements 4.4 Optimise plant operating conditions in accordance with guidelines 4.5 Adjust production in response to test results and control panel information 4.6 Monitor key process and environmental variables and take action 4.7 Adjust controller settings in accordance with procedures 4.8 Use fine-tuning software according to operating procedures 4.9 Coordinate with upstream and downstream units 4.10 Record adjustments and variations to specifications and schedules
5. Identify and respond to abnormal situations during operation	5.1 Monitor process control system frequently and critically throughout shift using own senses, and measured and indicated data 5.2 Monitor field data and instrumentation to ensure that product remains on specification

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
	5.3 Identify impacts of changes upstream and downstream 5.4 Identify actual and developing situations that may require action 5.5 Take action to remedy abnormal situations according to operating procedures 5.6 Complete required documents outlining abnormal situation management and corrective action taken
6. Shut down and prepare process control system for maintenance	6.1 Prepare process control system to be shut down according to operating procedures 6.2 Complete pre-shutdown checks according to operating procedures 6.3 Shut down process control system according to operating procedures 6.4 Identify, control and report shutdown hazards 6.5 Monitor shutdown and identify abnormal situations that may require action 6.6 Take action to remedy abnormal situations according to operating procedures 6.7 Shut down and changeover duty and standby equipment according to operating procedures 6.8 Isolate process control system from energy sources
7. Prepare and start up process control system	7.1 De-isolate and prepare process control system to be returned to standby or service 7.2 Complete pre-start checks according to operating procedures 7.3 Start up process control system according to operating procedures 7.4 Identify, control and report startup hazards 7.5 Monitor startup and identify abnormal situations that may require action 7.6 Take action to remedy abnormal situations according to operating procedures

Foundation Skills

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

- Learning skills to follow instructions, monitor process and select appropriate procedure.
- Reading skills to follow written procedures and documentation.
- Writing skills to complete workplace documentation.
- Oral communication skills to liaise and coordinate with team members and outside operators.
- Numeracy skills to monitor field data, instrumentation and process parameters.
- Technology skills to operate control panel, interfaces and software.

Other 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 PMAOPS305 Operate process control systems.

Links

Companion Volume implementation guides are found in VETNet -
<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=9fc2cf53-e570-4e9f-ad6a-b228ffdb6875>

Assessment Requirements for PMAOPS315 Operate and troubleshoot process control systems

Modification History

Release 1. Unit code and title changed. Application and Performance Criteria changed. Range of Conditions removed. Assessment Requirements changed. Supersedes and is equivalent to PMAOPS305 Operate process control systems.

Performance Evidence

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

- at least 2 times, each in a separate work context.

Knowledge Evidence

There must be evidence the candidate has knowledge of:

- process control systems, including:
 - the function and location of the equipment
 - operating parameters and integrity limits
 - impact of external factors, including variations in weather and feed
 - emergency shutdown procedures
 - control system architecture
 - basis of control for the plant/s
 - types of instrumentation and control systems, including feedforward, feedback and open control
 - types of instrumentation and control system components and their role, including primary sensing devices, final control elements and transducers and transmitters
 - how control loops and their components, including proportional integral derivative (PID) control, set points, controlled variable and indicated variable, operate to control the process, and their limitations
 - interaction between multiple control loops, including cascade control
 - impacts of changing controller settings and the limits within which changes can be made
 - uninterruptable power supplies (UPS) and its applications and use
- organisational processes and procedures, including:
 - interactions between plant items and processes
 - specific plant process operations
 - process drawings, such as piping and instrumentation diagram (P&ID) and process flow diagrams (PFD)

- process control philosophies and strategies
- physics and chemistry to the level of being able to provide an overview of the science of the process control system
- basic science of upstream and downstream processes
- principles of cause and effect
- product specifications and tolerances
- process control system abnormal situations and required action including but not limited to:
 - instrument failure and malfunction
 - electrical failure and malfunction
 - mechanical failure and malfunction
 - equipment design deficiencies
 - product parameters (temperature, flows, pressure and levels)
 - process control system malfunction
 - power and utility failures
 - variation in feed rate; quality or loss of feed
 - unstable control of pressure, temperature, level and/or flows
 - unstable and suboptimal operation
 - control equipment failure
 - process plant trips
 - change in atmospheric conditions (rain, temperature, wind and lightning)
 - emergency situations
- process control system hazards:
 - possible causes
 - potential consequences
 - appropriate risk controls
 - reporting and escalation 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:
 - plant, process control system, interface
 - operating procedures
- abnormal situations must be relevant to process control systems.

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=9fc2cf53-e570-4e9f-ad6a-b228ffdb6875>

PMAOPS317 Undertake ship transfer operations

Modification History

Release 1. Unit code and title changed. Application and Performance Criteria changed. Range of Conditions removed. Assessment Requirements changed. Supersedes and is equivalent to PMAOPS312 Undertake ship loading/unloading operations.

Application

This unit describes the skills and knowledge required to undertake ship loading and/or unloading operations for products such as liquefied natural gas (LNG), liquefied petroleum gas (LPG), oil, chemicals and particulates. It applies to loading areas including:

- terminal facilities
- jetties
- production platforms
- floating storage and offtake (FSO)/floating production storage and offtake (FPSO).

This unit applies to autonomous operators who are required to demonstrate a significant understanding of the process and the equipment operation in order to prepare for and control the cargo transfer rate within safe limits.

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.

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

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
1. Operate ship transfer system according to procedures	1.1 Receive and give shift handover 1.2 Communicate with personnel to identify and coordinate work requirements 1.3 Identify, control and report hazards 1.4 Check for recent work undertaken on ship loading and/or unloading equipment and address outstanding and incomplete work 1.5 Check operational status of transfer equipment 1.6 Check that the vessel is moored and secured in accordance with procedures and that the transfer points are aligned, ready for product transfer 1.7 Activate and bring all safety systems online 1.8 Check all arms, hoses and equipment connections are in place and operational conditions for transfer of product are satisfied 1.9 Complete safety-check documentation
2. Transfer product to and/or from ship according to procedures	2.1 Check transfer advice and documentation and complete required records 2.2 Engage fire and deluge protection systems 2.3 Launch and retrieve batching pigs 2.4 Commence the transfer process of the specified product
3. Identify and respond to abnormal situations during operation	3.1 Monitor transfer system frequently and critically throughout transfer using own senses, and measured and indicated data 3.2 Monitor field data and instrumentation to ensure that product remains on specification 3.3 Identify impacts of changes upstream and downstream 3.4 Identify actual and developing situations that may require action 3.5 Take action to remedy abnormal situations according to operating procedures 3.6 Complete required documents outlining abnormal situation management and corrective action taken
4. Complete transfer process	4.1 Complete transfer requirements within the allowable timeframes and schedules 4.2 Retrieve batching pigs, as required

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
	4.3 Shut down, isolate and disengage transfer systems from or to the vessel 4.4 Continue to monitor and control fire, deluge and safety systems during the finalisation of the loading process and let-go of the vessel 4.5 Complete logs and documentation and communicate the results of the transfer to personnel
5. Shut down and prepare transfer system for maintenance	5.1 Prepare transfer system to be shut down according to operating procedures 5.2 Complete pre-shutdown checks according to operating procedures 5.3 Shut down transfer system according to operating procedures 5.4 Identify, control and report shutdown hazards 5.5 Monitor shutdown and identify abnormal situations that may require action 5.6 Take action to remedy abnormal situations according to operating procedures 5.7 Shut down and changeover duty and standby equipment according to operating procedures 5.8 Isolate transfer system from energy sources
6. Prepare and start up transfer system	6.1 De-isolate and prepare transfer system to be returned to standby or service 6.2 Complete pre-start checks according to operating procedures 6.3 Start up transfer system according to operating procedures 6.4 Identify, control and report startup hazards 6.5 Monitor startup and identify abnormal situations that may require action 6.6 Take action to remedy abnormal situations according to operating procedures

Foundation Skills

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

- Learning skills to follow instructions, monitor process and select appropriate procedure.
- Reading skills to follow written procedures and documentation.
- Writing skills to complete workplace documentation.
- Oral communication skills to liaise and coordinate with team members and the control-room operator.
- Numeracy skills to monitor field data, instrumentation and process parameters.

Other 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 PMAOPS312 Undertake ship loading/unloading operations.

Links

Companion Volume implementation guides are found in VETNet -
<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=9fc2cf53-e570-4e9f-ad6a-b228ffdb6875>

Assessment Requirements for PMAOPS317 Undertake ship transfer operations

Modification History

Release 1. Unit code and title changed. Application and Performance Criteria changed. Range of Conditions removed. Assessment Requirements changed. Supersedes and is equivalent to PMAOPS312 Undertake ship loading/unloading operations.

Performance Evidence

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

- at least 2 times, each in a separate work context which must include one of the following abnormal situations where emergency procedures are applied:
 - a vapour leakage
 - a product leakage
 - a product spill.

Knowledge Evidence

There must be evidence the candidate has knowledge of:

- all items on a schematic of the ship loading and/or unloading system, including:
 - principles of operation of plant and equipment
 - operating parameters and integrity limits, and product specifications and tolerances including temperature, pressure and flow,
 - methods of controlling the rate of transfer and the advantages and disadvantages of each
 - procedures for starting, stopping, operating, controlling and isolating the system
 - emergency shutdown procedures
 - interactions between plant items and processes
 - functions of major components and troubleshooting techniques
- impact of external factors including variations in weather
- storage and product transfer techniques and mediums
- the nature and condition of materials being transferred to and from the vessel and the factors to be considered in the transfer operation
- effects of temperature and pressure in transfer operations
- ship loading and/or unloading abnormal situations and required actions
- hierarchy of control
- ship loading and/or unloading hazards:
 - 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:
 - ship loading and/or unloading equipment
 - product being transferred
 - vessel
 - operating procedures
- abnormal situations must be relevant to ship transfer operations.

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=9fc2cf53-e570-4e9f-ad6a-b228ffdb6875>

PMAOPS338 Communicate and monitor pipeline activities

Modification History

Release 1. Unit code and Application changed. Performance Criteria changed. Range of Conditions removed. Assessment Requirements changed. Supersedes and is equivalent to PMAOPS330 Communicate and monitor pipeline activities.

Application

This unit describes the skills and knowledge required to gather and relay information about pipeline activities from the pipeline control centre. This unit includes all such items of equipment and operations that form part of the pipeline control system.

This unit applies to autonomous operators who are required to demonstrate a significant understanding of pipeline operations in a plant with a centralised control panel. In the case of a large, complex plant, the operations technician would be part of a team during startup and shutdown procedures.

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. They may also be communicating with customers.

No licensing or certification requirements exist at the time of publication. Relevant legislation, industry standards and codes of practice within Australia must be applied.

This unit reflects relevant aspects of the *Australian Standard AS 2885.3—2012 Pipelines—Gas and liquid petroleum Part 3: Operation and maintenance*.

Pre-requisite Unit

Nil

Competency Field

Operations

Elements and Performance Criteria

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
1. Gather information about pipeline operation	1.1 Respond to and record messages and information received from field operations and pipeline system stations

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
needs	1.2 Interpret and acknowledge alarm codes to ensure the correct response strategy is selected and applied to the situation 1.3 Clarify additional information needs and select an appropriate communication medium to deliver required information 1.4 Improve operational efficiency through adequate and timely application of information provided 1.5 Interpret and action gas forecasts from customers and shippers to ensure correct gas flow rates into the pipeline system are achieved
2. Communicate pipeline information	2.1 Monitor activities of pipeline personnel in the field and data from the control centre 2.2 Evaluate internal messages and response communications concerning system alarms and incidents to establish the scope and severity of the alarms and incidents 2.3 Convey pipeline system operation information to relevant personnel in other work areas to ensure safe and efficient operation of the pipeline system 2.4 Relay information to technicians and other services and stakeholders so that fault-finding or safety checks can be conducted to identify risks to product supply, pipeline equipment, environment and personnel 2.5 Authorise, record and monitor work permits to allow operational activities to be undertaken or cancelled
3. Coordinate pipeline systems operations	3.1 Monitor field and pipeline station operations data 3.2 Monitor and observe equipment operating conditions, pressures and temperatures, and maintain correct equipment operating parameters 3.3 Identify faults and initiate required repair or reporting of the fault 3.4 Isolate identified faults in the pipeline 3.5 Respond to system alarms and emergencies 3.6 Determine the required course of action or emergency response to the identified system condition or emergency 3.7 Complete and document pre-shutdown checks 3.8 Shut down the pipeline system in accordance with operating procedures 3.9 Administer Permit to Work system and confirm all identified maintenance and work complies with all issued permits

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
4. Record and report on operations	4.1 Report safety and environmental risks or faulty equipment to designated personnel 4.2 Interpret and maintain field inspection records and reports 4.3 Complete operations and production reports 4.4 Perform shift handover procedures
5. Control hazards	5.1 Identify hazards in work area 5.2 Assess the risks arising from those hazards 5.3 Implement measures to control those risks in line with procedures and duty of care
6. Identify and respond to abnormal situations	6.1 Monitor equipment frequently and critically throughout shift using own senses, and measured and indicated data 6.2 Monitor field data and instrumentation to ensure that product remains on specification 6.3 Identify impacts of changes upstream and downstream 6.4 Identify actual and developing situations that may require action 6.5 Take action to remedy abnormal situations according to operating procedures 6.6 Complete required documents outlining abnormal situation management and corrective action taken

Foundation Skills

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

- Learning skills to follow monitor and evaluate process and select appropriate action.
- Reading skills to follow written procedures and documentation.
- Writing skills to complete written reports and documentation.
- Oral communication skills to liaise and coordinate with team members, the control-room operator and customers.
- Numeracy skills to monitor field data, instrumentation and process parameters.

Other 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 PMAOPS330 Communicate and monitor pipeline activities.

Links

Companion Volume implementation guides are found in VETNet -
<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=9fc2cf53-e570-4e9f-ad6a-b228ffdb6875>

Assessment Requirements for PMAOPS338 Communicate and monitor pipeline activities

Modification History

Release 1. Unit code and Application changed. Performance Criteria changed. Range of Conditions removed. Assessment Requirements changed. Supersedes and is equivalent to PMAOPS330 Communicate and monitor pipeline activities.

Performance Evidence

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

- at least 2 times, each in a separate work context.

Knowledge Evidence

There must be evidence the candidate has knowledge of:

- all items on a schematic of the pipeline system, including:
- principles of operation of plant and equipment, pipeline system functions within the design parameters and design philosophy
- interactions between plant items and processes
- operating parameters and integrity limits, and product specifications and tolerances including temperature, pressure and flow
- process information schemata of the pipeline system and associated facilities
- architecture of the pipeline system
- gas quality and analysis equipment operation
- safety data sheets (SDS) information
- emergency shutdown procedures
- functions of major components and troubleshooting techniques
- abnormal situations and required actions, including:
 - communications disruptions
 - corrosion and hydrate formation
 - variations in flow temperature and/or pressure
 - failures of piping, valves or flanges
 - pipeline leakages
- hierarchy of control
- pipeline system hazards:
 - 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:
 - pipeline control system
 - operating procedures
- abnormal situations must be relevant to pipeline control systems.

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=9fc2cf53-e570-4e9f-ad6a-b228ffdb6875>

PMAOPS346 Operate and troubleshoot liquefaction process

Modification History

Release 1. This version was released with PMA Chemical, Hydrocarbons and Refining Training Package, Release 2.0.

Application

This unit of competency describes the skills and knowledge required to operate liquefaction process.

This unit applies to autonomous operators who are required to demonstrate a significant understanding of the process and the equipment operation in a plant with local control, or in liaison with the control-room operator in a plant with a centralised control panel.

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. In the case of a large, complex plant, the operations technician would be part of a team during startup and shutdown procedures. It 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

Nil

Competency Field

Operations

Elements and Performance Criteria

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
1. Operate liquefaction process in according to procedures	1.1 Receive and give shift handover 1.2 Communicate with personnel to identify and coordinate work requirements 1.3 Identify, control and report process system hazards 1.4 Check for recent work undertaken on liquefaction process system

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
	and address outstanding and incomplete work 1.5 Check operational status of process system 1.6 Perform routine checks and complete logs and paperwork, taking action on unexpected readings 1.7 Adjust liquefaction process system according to operational parameters
2. Identify and respond to abnormal situations	2.1 Monitor liquefaction process system frequently and critically throughout shift using own senses, and measured and indicated data 2.2 Monitor field data and instrumentation to ensure that product remains on specification 2.3 Identify impacts of changes upstream and downstream 2.4 Identify actual and developing situations that may require action 2.5 Take action to remedy abnormal situations according to operating procedures 2.6 Complete required documents outlining abnormal situation management and corrective action taken
3. Shutdown and prepare liquefaction process for maintenance	3.1 Shut down liquefaction process system according to operating procedures 3.2 Identify, control and report shutdown hazards 3.3 Monitor shutdown and identify situations that may require action 3.4 Take action to remedy situations according to operating procedures 3.5 Shut down and changeover duty and standby equipment according to operating procedures 3.6 Isolate plant and utilities from energy sources
4. Prepare and start-up liquefaction process	4.1 De-isolate and prepare liquefaction process system to be returned to standby or service 4.2 Complete pre-start checks according to operating procedures 4.3 Startup liquefaction process system according to operating procedures 4.4 Identify, control and report startup hazards 4.5 Monitor startup and identify situations that may require action 4.6 Take action to remedy situations according to operating procedures

Foundation Skills

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

- Learning skills to follow instructions, monitor process and select appropriate procedure.
- Reading skills to follow written procedures and documentation.
- Writing skills to complete workplace documentation.
- Oral communication skills to liaise and coordinate with team members and the control-room operator.
- Numeracy skills to monitor field data, instrumentation and process parameters.

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=9fc2cf53-e570-4e9f-ad6a-b228ffdb6875>

Assessment Requirements for PMAOPS346 Operate and troubleshoot liquefaction process

Modification History

Release 1. This version was released with PMA Chemical, Hydrocarbons and Refining Training Package, Release 2.0.

Performance Evidence

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

- at least 2 times, each in a separate work context.

Knowledge Evidence

There must be evidence the candidate has knowledge of:

- all items on liquefaction system schematics including:
 - liquefaction process system item types, functions and troubleshooting techniques
 - principles of liquefaction system operation to meet company requirements
 - operating parameters and integrity limits, and product specifications and tolerances including temperature, pressure, flow and pH
 - procedures for starting, stopping, operating, controlling and isolating the system
 - emergency shutdown procedures
 - process control philosophies and strategies
 - interactions between plant items and processes
- basic physics and chemistry to the level of being able to provide an overview of the science of the liquefaction process
- liquefaction system abnormal situations and required action, including but not limited to:
 - variation or loss of feed
 - unstable control of pressure, temperature level and flows
 - control equipment failure
 - process plant trips
 - change in atmospheric conditions (including rain, temperature, wind and lightning, still conditions)
 - poor quality indicated in test results
 - analyser inaccuracy or malfunction
- hierarchy of controls
- liquefaction process hazards:
 - possible causes
 - potential consequences

- appropriate risk control
- reporting and escalation 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:
 - liquefaction system
 - operating procedures
- abnormal situations must be relevant to liquefaction operations.

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=9fc2cf53-e570-4e9f-ad6a-b228ffdb6875>

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

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

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:

- 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

Links

Companion Volume implementation guides are found in VETNet -
<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=9fc2cf53-e570-4e9f-ad6a-b228ffdb6875>

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

- 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.

Links

Companion Volume implementation guides are found in VETNet -
<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=9fc2cf53-e570-4e9f-ad6a-b228ffdb6875>

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

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

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

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

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

- 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

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>

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

- 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

- 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

- 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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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 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

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

		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

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)

- 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

- 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>

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.

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.

- 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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PMASUP311 Operate communications hub

Modification History

Release 1. Supersedes and is equivalent to PMASUP311A Operate communications hub

Application

This unit of competency covers the skills and knowledge required to use a range of communication equipment and ensure that required communications are completed.

This unit of competency applies to any type of communication that passes through, or is initiated by, the communications hub.

This unit of competency applies to panel operators and those in similar roles who are required to choose the appropriate communication mode, receive and initiate communications, determine and prioritise actions required from communication, check that communications have been received and actions initiated, and identify 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 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

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 communication modes	1.1	Turn equipment on/off as appropriate
		1.2	Charge or replace batteries or arrange maintenance to ensure equipment remains operational
		1.3	Follow appropriate protocols for each communication mode being used
		1.4	Select appropriate mode for use
		1.5	Ensure communication used is safe for environment
2	Deal with incoming communications	2.1	Receive communication
		2.2	Determine action required from communication
		2.3	Prioritise communication in keeping with all current activities
		2.4	Decide which communications to action, when and how
		2.5	Maintain confidentiality as appropriate
		2.6	Take action required by communication in the current circumstances
		2.7	Ensure communication reaches its intended destination in an appropriate timeframe
3	Initiate communications	3.1	Translate process issues into communications as required
		3.2	Identify stakeholders for any required communication
		3.3	Prioritise communications in keeping with all current activities
		3.4	Select appropriate communication mode
		3.5	Communicate as required within an appropriate timeframe
4	Verify	4.1	Identify communications which require follow through

communication	4.2	Identify communications delayed due to other priorities
	4.3	Check all required communications have been received
	4.4	Check appropriate actions have been initiated
	4.5	Identify cause of non-communication/inappropriate action and take required action

Foundation Skills

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

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

Range of Conditions

This field allows for different work environments and conditions that may affect performance. Essential operating conditions that may be present (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) are included.

Regulatory framework	The latest version of all legislation, regulations, industry codes of practice and Australian/international standards, or the version specified by the local regulatory authority, must be used, and include one or more of the following: • legislative requirements, including work health and safety (WHS) • 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

Communication modes Communication modes will be selected as appropriate from:

- radios
- phones
- email
- computer messaging
- public address (PA) system
- written
- verbal

Unit Mapping Information

Release 1. Supersedes and is equivalent to PMASUP311A Operate communications hub

Links

Companion Volume implementation guides are found in VETNet -
<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=9fc2cf53-e570-4e9f-ad6a-b228ffdb6875>

Assessment Requirements for PMASUP311 Operate communications hub

Modification History

Release 1. Supersedes and is equivalent to PMASUP311A Operate communications hub

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:

- select and use appropriate communication modes and protocols under both normal and abnormal plant/process/weather conditions
- identify and prioritise communications that are vital to current operations
- decide which communications require action and how to prioritise them
- identify stakeholders for required communication
- verify that communications have been received and any actions initiated
- identify problems and take action.

Knowledge Evidence

Evidence must be provided that demonstrates knowledge of:

- types, application of and protocols for different communication modes
- privacy requirements
- methods of prioritising communications with other activities
- issues requiring communication, with whom, and with what priority
- possible actions arising from types of situations and communications
- processes and terminology used in the facility
- organisation procedures, including those covering:
 - safety, emergency and hazard control
 - communications
 - privacy
 - release of information to external 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 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/s of equipment requiring demonstration of operation, start-up and shutdown procedures and responding to problems
- 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
 - 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>

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 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

		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.

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

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>

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

- 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.

- 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>

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

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

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

		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

- 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

- 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)

- 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>

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

- 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.

- 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>

PMAWHS211 Prepare equipment for emergency response

Modification History

Release 1. Supersedes and is equivalent to PMAOHS211B Prepare equipment for emergency response

Application

This unit of competency covers the skills and knowledge required to undertake minor maintenance and other preparation of equipment for use in emergency situations.

This unit of competency applies to operators who are required to apply procedures to inspect and assemble equipment, undertake minor servicing, ensure equipment is ready and available for use, identify problems and take action.

Minor servicing includes one or more of:

- inspections
- lubrication
- pressure checks
- refilling
- other maintenance/servicing.

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 items of equipment that are required for emergency response and 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	Identify emergency equipment	1.1	Locate emergency equipment
		1.2	Ensure access is provided to emergency equipment
2	Inspect and assemble emergency equipment	2.1	Inspect emergency equipment for faults or damage
		2.2	Secure/assemble couplings/connections and check operational condition
		2.3	Assemble equipment in accordance with manufacturer specifications
		2.4	Identify and report any missing or damaged components
3	Carry out minor servicing of equipment in accordance with procedures	3.1	Maintain and clean equipment
		3.2	Conduct servicing
		3.3	Ensure equipment functions
		3.4	Ensure equipment is 'made-ready' and stored in designated location
4	Report and record equipment status	4.1	Record and report equipment status
		4.2	Raise maintenance requests as required
		4.3	Undertake corrective actions 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

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
- manufacturer specifications
- 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

- Emergency** Emergency response equipment includes one or more of the following:

- response equipment**
- fire-extinguishers
 - fire hoses
 - fire blankets
 - pumps
 - branches, fittings and nozzles
 - foam equipment/units
 - personal protective equipment (PPE)
 - breathing apparatus
 - deluge/safety showers

- Emergency situations**
- Emergency situations include one or more of the following:
- accidents
 - fires
 - chemical or oil spills
 - gas leak or vapour emission
 - utilities failure
 - bomb scares

Unit Mapping Information

Release 1. Supersedes and is equivalent to PMAOHS211B Prepare equipment for emergency response

Links

Companion Volume implementation guides are found in VETNet -
<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=9fc2cf53-e570-4e9f-ad6a-b228ffdb6875>

Assessment Requirements for PMAWHS211 Prepare equipment for emergency response

Modification History

Release 1. Supersedes and is equivalent to PMAOHS211B Prepare equipment for emergency 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:

- assemble, inspect and service at least three (3) pieces of emergency response equipment
- check that equipment functions according to specifications
- store the emergency response equipment
- recognise early warning signs of equipment in need of servicing and take action
- complete records and forms.

Knowledge Evidence

Evidence must be provided that demonstrates knowledge of:

- types and application of emergency response equipment
- principles of operation of the emergency response equipment
- sources of information for equipment servicing schedules and processes
- hazards that may arise in the job/work environment
- hierarchy of 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 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 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.

- 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>

PMAWHS310 Investigate incidents

Modification History

Release 1. Supersedes and is equivalent to PMAOHS310B Investigate incidents

Application

This unit of competency covers the skills and knowledge required to investigate incidents in the workplace. These incidents can vary from large to small, completely internal or partially externally coordinated. They include all types of incidents and emergencies (e.g. process, work health and safety (WHS), and environmental).

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 operators who are required to secure the incident site, identify and examine a range of evidence to determine likely cause of incident, record evidence and analyse results to identify improvements to procedures/processes.

This unit of competency applies to experienced operators, technicians, supervisors, and those in similar roles who undertake internal investigations of minor incidents and/or who assist in external investigations of more major incidents.

The exact definition of the scope of responsibility will depend on company policy, as will the level of the person undertaking these investigations. These investigations will be in accordance with company procedures for such investigations which will be consistent with any relevant regulations.

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.

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	Review incident	1.1	Undertake site inspections of incident scene
		1.2	Communicate with relevant personnel regarding specific aspects of the incident
		1.3	Monitor corrective action procedures
		1.4	Communicate changes to the situation to appropriate personnel
2	Record investigation	2.1	Establish and secure boundaries of the incident scene to prevent contamination of prospective evidence/exhibits.

	process and results	2.2	Identify and interview persons relevant to the incident
		2.3	Identify and record evidence/exhibits at the scene prior to examination to ensure continuity
		2.4	Assess relevant information, documentation and evidence/exhibits
		2.5	Determine point of origin and most likely cause of incident
		2.6	Determine risk factors affecting the incident
		2.7	Identify and analyse a range of other possible causes
		2.8	Identify and utilise support services to investigate the incident scene
		2.9	Process, record and communicate information/evidence/exhibits, forms and documents to appropriate personnel following enterprise policies and procedures
3	Make suggestions to improve incident handling and prevention	3.1	Identify and assess tactical factors and resulting priorities occurring during the incident
		3.2	Formulate appropriate suggestions to improve handling of similar incidents based upon information available
		3.3	Identify incident cause and make recommendations to prevent a recurrence

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:

- job safety analysis (JSA) methods
- risk analysis/risk management procedures
- environmental risk/environmental management procedures
- personal protective equipment (PPE) and procedures
- emergency, fire and accident procedures
- hazard policies and 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 and risks Hazards and risk factors must be analysed in order to identify possible and likely causes of incidents.

Identifying hazards requires consideration of one or more of the following:

- hazards remaining from the original cause of the incident
- hazards arising from conducting an incident investigation
- hazards arising from working in conjunction with incident response personnel.

Identifying risks requires consideration of specific hazards, including the following:

- 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

Evidence gained Evidence gained as a result of investigations include one or more of the following:

- video tapes
- audio tapes
- drawings
- photographs
- plans
- manifests
- relevant documents
- records of interview
- personal notes
- physical evidence/materials
- debris
- soil

Support services Support services include one or more of the following:

- pathologists
- forensic investigators
- coroner
- government medical officers
- interpreters
- technical services

- legal officers
- undertakers
- forensic accountants
- information technology consultants
- document examiners
- handwriting experts
- financial organisations
- external law enforcement agencies

Interview strategies The purpose of the interview is to establish what happened, not who is to blame. Interviews must be planned and require consideration of the following:

- location
- timing
- method (direct questioning and empathetic questioning)
- strategies for developing rapport
- who is being interviewed
- legal and policy requirements that might apply
- exclusion of leading questions
- avoidance of cross-examination

Legal and policy requirements might apply according to the status of the person being interviewed. Requirements include one or more of the following:

- the presence of a solicitor, independent person, family member or interpreter
- special consideration that applies because of disability, child, parent, age, gender, ethnicity and race

Post-investigation documentation Post-investigation documentation include one or more of the following:

- statements
- proformas
- photographs
- tape/video recordings

Relevant personnel The relevant personnel for incident investigation referrals will depend on the type of information being conveyed and the enterprise policies and procedures. Typically they will include one or more of the

following:

- employer
- personnel directly involved in responding to the incident, including:
 - first response personnel
 - emergency response team members
 - emergency team leader
 - first aid officers
- other personnel with emergency team leader responsibilities

Unit Mapping Information

Release 1. Supersedes and is equivalent to PMAOHS310B Investigate incidents

Links

Companion Volume implementation guides are found in VETNet -
<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=9fc2cf53-e570-4e9f-ad6a-b228ffdb6875>

Assessment Requirements for PMAWHS310 Investigate incidents

Modification History

Release 1. Supersedes and is equivalent to PMAOHS310B Investigate 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:
- recognise and analyse potential situations requiring action and implement corrective action
- secure incident site and collect and preserve evidence and records in accordance with legislative requirements
- analyse information and evidence to determine:
 - possible and likely causes of incident
 - improvements to emergency procedures
- plan and undertake interviews using appropriate communication (listening and questioning) and negotiation techniques
- demonstrate ethical behaviour and cultural awareness in undertaking investigation
- identify and liaise with specialists and support services
- complete forms and records

read and interpret procedures, reports, evidence and statements.

Knowledge Evidence

Evidence must be provided that demonstrates knowledge of:

- organisational procedures, including those covering:
 - safety, hazards and hazard control
 - incident, fire and accident reporting and investigation
 - environmental protection
 - risk assessment/risk management
 - record keeping
- hazards that may arise in the job/work environment, and:
 - their possible causes
 - potential consequences
 - risks
 - appropriate risk controls
- factors affecting incident initiation and development for predictable incident types for that plant
- scope and limitations of own role and responsibilities

- appropriate personnel for referral and reporting.

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 in an operational environment while conducting an incident investigation
 - 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 an incident investigation using appropriate tools, equipment and safety gear
 - may use industry-based simulation for all or part of the unit particularly where, lack of opportunity is an issue. If simulation is the major source of evidence, then the simulation must replicate or enhance the situation of a real investigation.
- 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.
- 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>

PMAWHS311 Lead emergency teams

Modification History

Release 1. Supersedes and is equivalent to PMAOHS311B Lead emergency teams

Application

This unit of competency covers the skills and knowledge required to lead and coordinate an emergency team, including deployment of resources at the scene of an emergency.

This unit of competency applies to operators who are required to assess the emergency and determine and coordinate responses, including rescue of personnel at risk, and containment of the emergency.

A person undertaking this unit of competency would be normally nominated to assume the responsibility of emergency team leader.

Typically they would be leading an incident response or fire emergency response team.

This unit of competency applies in any of the following installations or facilities:

- onshore/offshore rig/installation
- island based facility
- floating facility (e.g. floating storage and offloading (FSO), floating production, storage and offloading (FPSO), and floating liquefied natural gas (FLNG))
- onshore production, processing and/or storage facilities
- pipeline easements
- maintenance bases.

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	Assess the nature and extent of the emergency	1.1	Determine the nature and extent of the emergency in order to ascertain the level and degree of the emergency and what required actions and management strategies should be implemented
		1.2	Communicate the nature and extent of the emergency in a timely manner to other nominated emergency or facility personnel
		1.3	Facilitate the rescue of personnel at risk, control/extinguish the emergency and make the affected area safe through application of rescue and control strategies
		1.4	Ensure all team members are adequately instructed, protected and equipped to function safely and effectively in the emergency situation through the application of personal protective equipment (PPE)
2	Effect rescue of personnel at risk	2.1	Instruct rescue teams to effect the search for, and rescue of, personnel identified as being at risk
		2.2	Allocate resources to potentially exposed or threatened personnel and assets, and minimise the likelihood of escalation of the risk
3	Confine the spread of emergency	3.1	Initiate control/extinguishing responses promptly in order to eliminate the emergency
		3.2	Render affected areas safe in order to prevent the likelihood of further re-occurrence, or threat to personnel or assets
		3.3	Provide feedback to facility or other nominated personnel concerning the status of the 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.

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:

- fire management systems
- communication systems
- relevant facility emergency management and contingency response plans
- 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

Control and rescue equipment

Control and rescue equipment includes one or more of the following:

- fire-extinguishers
- fire hoses
- mobile extinguishers
- fire blankets
- pumps
- branches, fittings and nozzles
- foam equipment/units
- PPE
- self contained breathing apparatus (SCBA)
- communication equipment
- stretchers
- deluge/safety showers

Fire-fighting media

Fire-fighting media includes one or more of the following:

- water
- foam
- extinguishing powder
- gaseous extinguishing agents
- vapourising liquids
- other fire-extinguishing substances

Emergency strategies and tactics

Emergency strategies and tactics include one or more of the following:

- direct attack
- indirect attack
- combination attack
- exposure protection
- internal/offensive attacks
- confining the spread of incident
- rescuing occupants
- cooling the fuels
- removal of fuels
- interrupting the chemical chain reaction
- exclusion of oxygen

Emergency situations

Emergency situations include one or more of the following:

- accidents
- fires
- chemical or oil spills
- gas leak or vapour emission
- utilities failure
- bomb scares

Unit Mapping Information

Release 1. Supersedes and is equivalent to PMAOHS311B Lead emergency teams

Links

Companion Volume implementation guides are found in VETNet -
<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=9fc2cf53-e570-4e9f-ad6a-b228ffdb6875>

Assessment Requirements for PMAWHS311 Lead emergency teams

Modification History

Release 1. Supersedes and is equivalent to PMAOHS311B Lead emergency teams

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 clearly and unambiguously with team members, management and other personnel under stress
- lead and manage/supervise team members in emergency situations
- analyse risk, allocate resources and prioritise activities
- select and use appropriate control/fire-fighting media and rescue equipment
- interpret information about changing conditions, hazards and individuals' needs and make prompt decisions about appropriate action and allocation of resources
- read and interpret procedures.

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
 - relevant facility emergency management and safety systems
 - emergency communication systems
 - emergency response plans
- fire chemistry, fire characteristics and/or chemical hazards
- location and availability of response equipment
- types and application of personal protective equipment (PPE) and breathing apparatus
- types and application of fire-fighting/emergency response and containment media
- hazard identification, assessment and control of risk
- principles and procedures of self contained breathing apparatus (SCBA)
- search and rescue techniques (including self rescue techniques)
- teamwork principles and techniques
- types and impact of emergency tactics
- casualty handling 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 cover the range of situations which might be expected to be encountered
 - 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 simulated emergency utilising 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.
- 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>

PMBWELD301E Join polyethylene plastic pipelines using butt welding

Modification History

Release 1. Unit code and title changed. Application changed. Elements and Performance Criteria changed. Range of Conditions removed. Assessment Requirements changed. Supersedes and is equivalent to PMBWELD301 Butt weld polyethylene plastic pipelines.

Application

This unit describes the skills and knowledge required to join polyethylene (commonly referred to as PE) plastic pipelines using butt welding, both in the field and under factory conditions.

This unit applies to an experienced technician working alone or as part of a team.

The unit principally refers to the practical application of polymer material science to employ molecular diffusion across the pipe faces, under controlled conditions, to achieve welding across the joint.

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

Welding – Plastic Pipelines, Plastic Welding

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 compatibility of materials for welding	1.1 Identify materials as polyethylene from job specifications and worksite instructions 1.2 Check compatibility of polyethylene materials and pipes supplied with welding requirements from specifications
2. Calculate pipe welding	2.1 Identify welding machine type and operating data from job

Elements	Performance Criteria
Elements describe the essential outcomes.	Performance criteria describe the performance needed to demonstrate achievement of the element.
parameters	specifications 2.2 Identify pipe materials and dimensions from job specifications 2.3 Perform welding parameter calculations, including those for durations and pressure, to reflect specifications of individual welding machines and pipe details 2.4 Prepare field operational sheets according to workplace procedures
3. Maintain and adjust welding equipment	3.1 Set up welding equipment and work area to suit job requirements 3.2 Ensure safety equipment is available and operational 3.3 Inspect equipment, and report on and rectify non-conforming equipment 3.4 Check operation of equipment and adjust heating, trimming, and pressure systems using equipment readings and specifications
4. Perform butt welding operations	4.1 Assemble pipeline components in welding machine as required to support welding task 4.2 Clean, align and trim pipe ends according to workplace procedures 4.3 Perform heating, welding, and cooling phases using calculated butt welding parameters 4.4 Monitor and accurately record achieved butt welding parameters for each joint 4.5 Clean-up equipment following completion of welding according to equipment instructions 4.6 Clean-up work area, and apply waste management strategies to dispose of scrap materials according to workplace procedures 4.7 Use personal protective equipment (PPE) according to workplace procedures
5. Visually inspect completed joints	5.1 Identify quality standards for visible characteristics of joints from job specifications 5.2 Assess joints against standards and report results, including non-conforming results 5.3 Accurately maintain records and logbooks

Foundation Skills

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

- Numeracy skills to calculate welding parameters, and interpret equipment readings and technical specifications.
- Reading skills to interpret job specifications and workplace procedures.
- Writing and oral communication skills to record and report on welding of polyethylene plastic pipelines using butt welding techniques.

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

Unit Mapping Information

Supersedes and is equivalent to PMBWELD301 Butt weld polyethylene plastic pipelines.

Links

Companion Volume implementation guides are found in VETNet – -
<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=932aacef-7947-4c80-acc6-593719fe4090>

Assessment Requirements for PMBWELD301E Join polyethylene plastic pipelines using butt welding

Modification History

Release 1. Unit code and title changed. Application changed. Elements and Performance Criteria changed. Range of Conditions removed. Assessment Requirements changed. Supersedes and is equivalent to PMBWELD301 Butt weld polyethylene plastic pipelines.

Performance Evidence

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

- join polyethylene plastic pipelines using butt welding, at least once, to meet job specifications.

Knowledge Evidence

There must be evidence the candidate has knowledge of:

- the functions and operating principles of butt welding equipment, components and ancillary equipment
- types of butt welding processes and their effect on the welded product
- Australian Standards relevant to the materials being used and products being made
- production workflow sequences and materials demand
- typical quality standards at each stage of the welding process
- key variables that may affect product quality, and how to manage them, including:
 - temperature
 - pressure
 - alignment
 - uniformity
 - weld bead appearance
 - tolerance for weld and joint
 - consistency of weld
 - mechanical strength of weld
- worksite environment factors that may affect weld quality and appropriate remedies
- typical process and product problems, including early warning signs, possible causes and corrective actions
- organisational procedures relevant to the work environment and job role
 - hazards that may arise in the job or work environment, 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.

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=932aacef-7947-4c80-acc6-593719fe4090>

PMBWELD302E Join polyethylene plastic pipelines using electrofusion welding

Modification History

Release 1. Unit code and title changed. Application changed. Elements and Performance Criteria changed. Range of Conditions removed. Assessment Requirements changed. Supersedes and is equivalent to PMBWELD302 Electrofusion weld polyethylene plastic pipelines.

Application

This unit describes the skills and knowledge required to weld polyethylene (commonly referred to as PE) plastic pipes using electrofusion, both in the field and under factory conditions.

This unit applies to an experienced technician working alone or as part of a team.

The unit principally refers to a process that applies similar techniques to the applied science covered in PMBWELD301E Join polyethylene plastic pipelines using electrofusion welding, where the weld is achieved at the weld interface through polymer diffusion-mixing.

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

Welding – Plastic Pipelines, Plastic Welding

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 compatibility of commercial electrofusion control systems	1.1 Identify electrofusion welding control unit type and operating data from job specifications 1.2 Identify compatibility of polyethylene pipe material and dimension with electrofusion fittings requirements from job

Elements	Performance Criteria
Elements describe the essential outcomes.	Performance criteria describe the performance needed to demonstrate achievement of the element.
	specifications 1.3 Identify compatibility of control unit with electrofusion fitting control requirements from job specifications
2. Maintain and adjust electrofusion control unit equipment	2.1 Set up electrofusion welding equipment and work area to suit job requirements 2.2 Ensure safety equipment is available and operational for requirements 2.3 Inspect equipment, and report on and rectify non-conforming equipment 2.4 Check operation of equipment using equipment readings and specifications
3. Perform electrofusion welding operations	3.1 Prepare pipe and fitting according to specification 3.2 Perform heating, welding and cooling phases using calculated electrofusion welding parameters 3.3 Monitor and accurately record achieved electrofusion welding parameters for each joint according to workplace procedures 3.4 Clean-up and maintain equipment following completion of welding according to equipment instructions 3.5 Clean-up work area, and apply waste management strategies to dispose of scrap materials according to workplace procedures
4. Visually inspect completed electrofusion joints	4.1 Identify quality standards for visible characteristics of electrofusion joints from job specifications 4.2 Visually assess joints against job requirements and report results, including non-conforming results 4.3 Accurately maintain records and logbooks

Foundation Skills

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

- Numeracy skills to calculate welding parameters, and interpret equipment readings and technical specifications.
- Reading skills to interpret job specifications and workplace procedures.

- Writing and oral communication skills to record and report on welding of polyethylene plastic pipelines using electrofusion welding techniques.

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

Unit Mapping Information

Supersedes and is equivalent to PMBWELD302 Electrofusion weld polyethylene plastic pipelines.

Links

Companion Volume implementation guides are found in VETNet – -

<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=932aacef-7947-4c80-acc6-593719fe4090>

Assessment Requirements for PMBWELD302E Join polyethylene plastic pipelines using electrofusion welding

Modification History

Release 1. Unit code and title changed. Application changed. Elements and Performance Criteria changed. Range of Conditions removed. Assessment Requirements changed. Supersedes and is equivalent to PMBWELD302 Electrofusion weld polyethylene plastic pipelines.

Performance Evidence

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

- join polyethylene plastic pipelines using electrofusion welding, at least once, to meet job specifications, and including:
 - preparation of joint assemblies:
 - clamping
 - aligning
 - insertion
 - pipe peeling to be smooth and to the correct depth.

Knowledge Evidence

There must be evidence the candidate has knowledge of:

- the function and operating principles of electrofusion welding equipment, components and ancillary equipment
- characteristics of materials and their behaviour in relation to welding process variables and stages of production
- typical quality standards required at each stage of production
- production workflow sequences and materials demand
- key variables that may affect product quality and production output, and how to manage them, including:
 - voltage
 - fusion time
 - cooling time
 - alignment
 - product output rate
- worksite environment factors that may affect joint quality and appropriate remedies
- typical process and product problems, including early warning signs, possible causes and corrective actions

- organisational 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.

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=932aacef-7947-4c80-acc6-593719fe4090>

PUAFER008 Confine small emergencies in a facility

Modification History

Release 1. This is the first release of this unit of competency in the PUA Public Safety Training Package.

Application

This unit of competency involves the skills and knowledge required to confine small emergencies in a facility and it applies to occupants who are required to have first attack firefighting skills. It includes preparing for emergency situations, identifying and assessing an emergency, safely confining emergencies, using initial response equipment and reporting on the facility's emergency response.

Small emergencies in a facility include incidents such as small fires that can be controlled using a fire extinguisher; chemical spills that can be controlled using facility personal protective clothing and equipment and a spill kit; or a vehicle accident where there is no significant injury or damage.

The unit has been developed to cover the facilities as specified in Australian Standard (AS) 3745 and AS4083. For this unit, as covered by AS3745 and/or AS4083, occupants are people attending a facility on a permanent or temporary basis such as an employee, contractor, student or resident, but not a visitor or patient and a facility is a building, structure or workplace that is, or may be, occupied by people (occupants).

All aspects of the unit must be undertaken in line with legislative requirements, organisational policies and procedures, and accepted safe work practices.

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

Pre-requisite Unit

Not applicable

Competency Field

Facility Emergency Response

Unit Sector

Public Safety

Elements and Performance Criteria

ELEMENTS

Elements describe the essential outcomes.

PERFORMANCE CRITERIA

Performance criteria describe the performance needed to demonstrate achievement of the element.

1 Prepare for emergency situations	1.1	Possible facility emergency situations and responses are identified by the occupant
	1.2	Emergency resources are identified and their location is ascertained
	1.3	Problems with emergency resources are identified and reported to relevant personnel, in accordance with the facility emergency plan
2 Identify and assess emergency	2.1	Hazards are identified and effectiveness of initial response actions are assessed
	2.2	Advice in relation to the emergency is sought, in accordance with the facility emergency plan
	2.3	Where initial response actions are considered unsafe or inappropriate action is taken to discontinue, in accordance with the facility emergency plan
3 Safely confine emergencies	3.1	Facility emergency is confined to the immediate area, in accordance with facility emergency response procedures
	3.2	Emergency resources are used, in accordance with facility emergency response procedures and safe work practices
	3.3	Emergency resources are used, in accordance with facility emergency response procedures
4 Use initial response equipment	4.1	Initial response equipment is checked to ensure its serviceability prior to use
	4.2	Equipment is selected and used in response to the facility emergency
	4.3	Use of equipment is coordinated with other emergency actions, in accordance with the facility emergency plan
5 Report facility emergency response	5.1	Emergency and response is documented and reported, in accordance with the facility emergency plan
	5.2	Use of initial response equipment is documented and

reported, in accordance with the facility emergency plan

- 5.3** Initial response equipment is marked or positioned after use, in accordance with the facility emergency plan and a report to relevant personnel is completed to indicate if any equipment requires servicing and/or replacing

Foundation Skills

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

Range of Conditions

Range is restricted to essential operating conditions and any other variables essential to the work environment.

Non-essential conditions may be found in the Companion Volume Implementation Guide.

Unit Mapping Information

This unit replaces and is equivalent to PUAWER008B Confine small facility emergencies.

Links

PUA Training Package Companion Volume Implementation Guide is found in VETNet - <https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=3eca5672-6d5a-410b-8942-810d0ba05bbf>

Assessment Requirements for PUAFER008 Confine small emergencies in a facility

Modification History

Release 1. This is the first release of this unit of competency in the PUA Public Safety Training Package.

Performance Evidence

Evidence required to demonstrate competence in this unit must be relevant to and satisfy all the requirements of the elements and performance criteria on at least one occasion and includes

- applying Work, Health and Safety (WHS)/Occupational Health and Safety (OHS) requirements
- communicating with occupants, emergency personnel and stakeholders
- complying with facility policies and procedures
- confining emergencies safely
- giving and following instructions
- identifying and acting to avoid or control any associated hazards
- identifying and assessing an emergency
- implementing facility emergency response procedures
- preparing for emergency situations
- reporting facility emergency response
- restowing initial response equipment
- using initial response equipment
- utilising risk management processes

Knowledge Evidence

Evidence required to demonstrate competence in this unit must be relevant to and satisfy all the requirements of the elements and performance criteria and includes knowledge of

- actions to be followed when initial response action is not safe
- facilities and equipment that may be used safely to confine emergencies
- facility emergency plan and emergency response procedures
- initial response actions including activation of response team, activation of suppression systems, use of alerts, containment of emergency, evacuation of area, removal of occupants from danger, removal of emergency, basic aid, shut down procedures, use of containment systems and use of portable fire extinguishers, fire blankets and/or hose reels
- kinds of emergency resources
- legislation, industry standards, codes of practice and regulations
- limitations of initial response equipment, emergency control equipment or facilities

- methods of extinguishment
- organisational/facility documentation, policies and procedures
- possible hazards types of emergencies
- Work, Health and Safety (WHS)/Occupational Health and Safety (OHS) including risk mitigation

Assessment Conditions

As a minimum, assessors must satisfy applicable regulatory requirements, which include requirements in the Standards for Registered Training Organisations current at the time of assessment.

As a minimum, assessment must satisfy applicable regulatory requirements, which include requirements in the Standards for Registered Training Organisations current at the time of assessment.

Assessment processes and techniques must be appropriate to the language, literacy and numeracy requirements of the work being performed and the needs of the candidate.

Assessment must occur in workplace operational situations. Where this is not appropriate, assessment must occur in industry approved simulated workplace operational situations that reflect workplace conditions.

Resources for assessment must include access to

- a range of relevant activities, exercises, case studies and/or simulations
 - reflective of a range of emergency situations that may be expected in a facility
- relevant and appropriate materials, equipment, tools and personal protective clothing and equipment currently used in industry
- applicable documentation including organisational policies, facility emergency plan and emergency response procedures, industry standards, equipment specifications, regulations, codes of practice and operation manuals.

Links

PUA Training Package Companion Volume Implementation Guide is found in VETNet - <https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=3eca5672-6d5a-410b-8942-810d0ba05bbf>

RIICCM205F Carry out manual excavation

Modification History

Release	Comments
Release 1	This version first released with RII Resources and Infrastructure Industry Training Package Version 6.0.

Application

This unit describes the skills and knowledge required to carry out manual excavation in civil construction, including confirming the location of underground services, manually excavating, placing barricades and isolating the excavation.

It applies to those working in operational roles. They generally work under supervision to undertake a prescribed range of functions involving known routines and procedures and take some responsibility for the quality of work outcomes.

Licensing, legislative and certification requirements that apply to this unit can vary between states, territories, and industry sectors. Users must check requirements with relevant body before applying the unit.

Unit Sector

Civil construction

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
1. Plan and prepare for manual excavation	1.1 Obtain, interpret and confirm work requirements 1.2 Access, interpret and apply documentation required to carry out manual excavation 1.3 Obtain and interpret emergency procedures and identify steps required to respond to emergencies 1.4 Select and wear personal protective equipment according to site requirements 1.5 Confirm and identify requirements for complying with environmental protection, safety and traffic management signage requirements

ELEMENT	PERFORMANCE CRITERIA
	1.6 Identify, address and report environmental issues, potential hazards and risks 1.7 Select plant, tools and equipment required to carry out tasks and check for faults 1.8 Identify, confirm, and locate materials required for work application
2. Initiate manual excavation procedures	2.1 Confirm location and specifications of intended excavation 2.2 Identify service markers and taped areas 2.3 Determine and confirm location of underground services and avoid damage and interference 2.4 Use hand tools and dig post holes, small pits and trenches to required dimensions 2.5 Undertake trench collapse prevention procedures where excavation is in unstable ground 2.6 Place barricades around the excavation according to job requirements
3. Complete and isolate the excavation	3.1 Clean loose material out of excavation using hand tools 3.2 Confirm excavation complies with specification and job requirements 3.3 Clear loose material away from edge of excavation
4. Conduct housekeeping activities	4.1 Clear work area and dispose of or recycle materials according to site requirements 4.2 Clean and maintain condition of equipment, confirm suitability for use, and address and report issues as required within scope of own role 4.3 Manage and report hazards, and maintain a safe working environment 4.4 Process records according to site requirements

Foundation Skills

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

Skill	Description
Numeracy	Calculates basic measurements including mass and dimensions
Self-management	Monitors and minimises own exposure to worksite risks and hazards during work activities

Unit Mapping Information

Supersedes and is equivalent to RIICCM205E Carry out manual excavation.

Links

Companion Volume Implementation Guide is found on VETNet -

<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=88a61002-9a21-4386-aaf8-69c76e675272>

Assessment Requirements for RIICCM205F Carry out manual excavation

Modification History

Release	Comments
Release 1	This version first released with RII Resources and Infrastructure Industry Training Package Version 6.0.

Performance Evidence

The candidate must demonstrate the ability to complete the tasks outlined in the elements, performance criteria and foundation skills of this unit, including evidence of the ability to:

- carry out manual excavation on at least two occasions, including:
 - identifying the location of underground services
 - digging post holes, small pits and trenches to the required dimensions
 - applying trench collapse prevention procedures in unstable ground.

During the above, the candidate must:

- locate and apply relevant documentation, policies and procedures
- identify, report and record hazards and risks
- implement the requirements, procedures and techniques for carrying out manual excavation, including using manual excavation tools
- work with others to carry out manual excavation to meet required outcomes, including:
 - communicating with others to receive and clarify work instructions
 - using communications techniques and equipment to convey information to others, including signage to advise others of work activity and exclusion zones
 - complying with reporting requirements and procedures.

Knowledge Evidence

The candidate must be able to demonstrate knowledge to complete the tasks outlined in the elements, performance criteria and foundation skills of this unit, including knowledge of:

- legislation required to carry out manual excavation
- policies, procedures and documentation required to carry out manual excavation, including those relating to:
 - hazard and risk management
 - work health and safety

- emergency response
- environmental protection
- waste management
- communication techniques and equipment
- workplace recording and reporting
- site isolation and traffic control responsibilities
- operational maintenance and basic diagnostic procedures
- project quality requirements
- job plans and specifications
- housekeeping activities, including:
 - cleaning work area
 - cleaning and maintaining condition of equipment
 - waste management
 - processing records
- principles and techniques required to carry out manual excavation, including those relating to:
 - organising work activities
 - soil technology
 - trench collapse prevention techniques, including benching and battering
 - site conditions
 - underground services
 - excavation methods
 - rock types, including:
 - metamorphic
 - igneous
 - sedimentary
- types, characteristics, technical capabilities and limitations of plant and equipment required to carry out manual excavation, including:
 - picks
 - shovels
 - hand augers
 - string lines
 - jack hammers
 - scabblers
- materials safety data sheet (SDS) compliance processes
- components of job safety analyses (JSAs), job safety environmental analyses (JSEAs), and safe work method statements (SWMs)
- civil construction terminology related to carrying out manual excavation.

Assessment Conditions

Mandatory conditions for assessment of this unit are stipulated below. The assessment must:

- include access to:
 - personal protective equipment
 - equipment required to carry out manual excavation
- be conducted in a safe environment; and,
- be assessed in the context of this sector's work environment; and,
- be assessed in compliance with relevant legislation/regulation and using policies, procedures and processes directly related to the industry sector for which it is being assessed; and,
- confirm consistent performance can be applied in a range of relevant workplace circumstances.

Where personal safety or environmental damage are limiting factors, assessment may occur in a simulated work environment* provided it is realistic and sufficiently rigorous to cover all aspects of this sector's workplace performance, including environment, task skills, task management skills, contingency management skills and job role environment skills.

- **Assessor requirements**

Assessors must be able to clearly demonstrate current and relevant industry knowledge and experience to satisfy the mandatory regulatory standards as set out in the Standards for Registered Training Organisations 2015/Australian Quality Training Framework mandatory requirements for assessors current at the time of assessment and any relevant licensing and certification requirements. This includes:

- vocational competencies at least to the level being delivered and assessed
- current industry skills directly relevant to the training and assessment being provided
- current knowledge and skills in vocational training and learning that informs their training and assessment
- formal relevant qualifications in training and assessment
- having knowledge of and/or experience using the latest techniques and processes
- possessing the required level of RII training product knowledge
- having an understanding and knowledge of legislation and regulations relevant to the industry and to employment and workplaces
- demonstrating the performance evidence, and knowledge evidence outlined in this unit of competency, and
- the minimum years of current** work experience after competency has been obtained as specified below in an industry sector relevant to the outcomes of the unit.

It is also acceptable for the appropriately qualified assessor to work with an industry expert to conduct assessment together and for the industry expert to be involved in the assessment judgement. The industry expert must have current industry skills directly relevant to the training and assessment being provided. This means the industry subject matter expert must demonstrate skills and knowledge from the minimum years of current work experience after competency has been obtained as specified below, including time spent in roles related to the unit being assessed:

Industry sector	AQF indicator level***	Required assessor or industry subject matter expert experience
Drilling, Metalliferous Mining, Coal Mining, Extractive (Quarrying) and Civil Infrastructure	1	1 year
	2	2 years
Drilling, Coal Mining, Extractive (Quarrying), Metalliferous Mining and Civil Infrastructure	3-6	3 years
Other sectors	Where this unit is being assessed outside of the resources and infrastructure sectors assessor and/or industry subject matter expert experience should be in-line with industry standards for the sector in which it is being assessed and where no industry standard is specified should comply with any relevant regulation.	

*Guidance on simulated environments has been stipulated in the RII Companion Volume Implementation Guide located on VETNet.

**Assessors can demonstrate current work experience through employment within industry in a role relevant to the outcomes of the unit; or, for external assessors this can be demonstrated through exposure to industry by conducting a minimum number of site assessments as determined by the relevant industry sector, across various locations.

*** While a unit of competency does not have an AQF level, where a unit is being delivered outside of a qualification the first numeric character in the unit code should be considered as the AQF indicator level for assessment purposes.

Links

Links

Companion Volume Implementation Guide is found on VETNet -

<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=88a61002-9a21-4386-aaf8-69c76e675272>

RIICCM206E Support plant operations

Modification History

Release	Comments
Release 1	This version first released with RII Resources and Infrastructure Industry Training Package Version 6.0.

Application

This unit describes the skills and knowledge required to support plant operations in civil construction, including locating and marking services and assisting and providing guidance to directing operators.

It applies to those working in an assistant role. They generally work under supervision to undertake a prescribed range of functions involving known routines and procedures and take some responsibility for the quality of work outcomes.

Licensing, legislative and certification requirements that apply to this unit can vary between states, territories, and industry sectors. Users must check requirements with relevant body before applying the unit.

Unit Sector

Civil construction

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
1. Plan and prepare for supporting plant operations	1.1 Obtain, interpret and confirm work requirements 1.2 Access, interpret and apply documentation required to support plant operations 1.3 Obtain and interpret emergency procedures and identify steps required to respond to emergencies 1.4 Select and wear personal protective equipment according to site requirements 1.5 Confirm and identify requirements for complying with environmental protection, safety and traffic management signage requirements

	1.6 Identify, address and report environmental issues, potential hazards and risks 1.7 Select plant, tools and equipment required to carry out tasks and check for faults 1.8 Identify, confirm, and locate materials required for work application
2. Identify and protect services	2.1 Locate services from plan 2.2 Locate, and advise operators of service markers 2.3 Expose, mark services and erect barriers to prevent damage
3. Support the operators	3.1 Identify and alert operator of unsafe conditions and potential damage to property as required 3.2 Check pegs and levels and give advice to machine operator for compliance with job requirements 3.3 Deliver or relocate materials and check for quality and quantity 3.4 Direct delivery plant and trucks as required to location for loading and/or unloading 3.5 Provide guidance to operator for spreading materials to specified levels 3.6 Provide guidance to operator for compaction of materials in layers 3.7 Finish excavation jobs by hand to specifications 3.8 Complete reporting requirements
4. Conduct housekeeping activities	4.1 Clear work area and dispose of or recycle materials according to site requirements 4.2 Clean and maintain condition of equipment, confirm suitability for use, and address and report issues as required within scope of own role 4.3 Manage and report hazards, and maintain a safe working environment 4.4 Process records according to site requirements

Foundation Skills

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

SKILL	DESCRIPTION
Numeracy	Calculates basic measurements including mass and dimensions
Self-management	Monitors and minimises own exposure to worksite risks and hazards during work activities

Unit Mapping Information

Supersedes and is equivalent to RIICCM206D Support plant operations.

Links

Companion Volume Implementation Guide is found on VETNet -

<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=88a61002-9a21-4386-aaf8-69c76e675272>

Assessment Requirements for RIICCM206E Support plant operations

Modification History

Release	Comments
Release 1	This version first released with RII Resources and Infrastructure Industry Training Package Version 6.0.

Performance Evidence

The candidate must demonstrate the ability to complete the tasks outlined in the elements, performance criteria and foundation skills of this unit, including evidence of the ability to:

- support plant operations on at least two occasions, including:
 - spotting for at least two different activities on each occasion involving excavation, fill, spreading of imported material and trimming
 - locating and marking services on separate projects.

During the above, the candidate must:

- locate and apply required legislation, documentation, policies and procedures
- identify, report and record hazards and risks
- implement the requirements, procedures and techniques to support plant operations
- work with others to support plant operations that meets required outcomes, including:
 - communicating to alert and assist operators
 - using communication techniques and equipment to convey information to others, including signage to advise others of work activity and exclusion zones
 - completing reporting requirements and procedures.

Knowledge Evidence

The candidate must be able to demonstrate knowledge to complete the tasks outlined in the elements, performance criteria and foundation skills of this unit, including knowledge of:

- legislation required to support plant operations
- policies, procedures and documentation required to support plant operations, including those relating to:
 - hazard and risk management
 - work health and safety
 - emergency response

- site and equipment safety
- environmental protection
- waste management
- communication techniques and equipment
- workplace recording and reporting
- site isolation and traffic control responsibilities
- operational, maintenance and basic diagnostic procedures
- project quality requirements
- job plans and specifications
- housekeeping activities, including:
 - cleaning work area
 - cleaning and maintaining condition of equipment
 - waste management
 - processing records
- using required tools and equipment safely
- principles and techniques required to support plant operations, including those related to:
 - soil technology
 - rock materials, including:
 - metamorphic
 - igneous
 - sedimentary
 - civil works
 - organising work activities
- types, characteristics, technical capabilities and limitations of plant and equipment required to support plant operations, including:
 - dozers
 - graders
 - excavators
 - front end loaders
 - rollers
 - string lines
 - plumb bob
 - batter boards
 - barriers and barricades
- materials safety data sheet (SDS) compliance processes
- components of job safety analyses (JSAs), job safety environmental analyses (JSEAs), and safe work method statements (SWMs)
- civil construction terminology related to supporting plant operations.

Assessment Conditions

Mandatory conditions for assessment of this unit are stipulated below. The assessment must:

- include access to:
 - personal protective equipment
 - equipment required to support plant operations
- be conducted in a safe environment; and,
- be assessed in the context of this sector's work environment; and,
- be assessed in compliance with relevant legislation/regulation and using policies, procedures and processes directly related to the industry sector for which it is being assessed; and,
- confirm consistent performance can be applied in a range of relevant workplace circumstances.

Where personal safety or environmental damage are limiting factors, assessment may occur in a simulated work environment* provided it is realistic and sufficiently rigorous to cover all aspects of this sector's workplace performance, including environment, task skills, task management skills, contingency management skills and job role environment skills.

Assessor requirements

Assessors must be able to clearly demonstrate current and relevant industry knowledge and experience to satisfy the mandatory regulatory standards as set out in the Standards for Registered Training Organisations 2015/Australian Quality Training Framework mandatory requirements for assessors current at the time of assessment and any relevant licensing and certification requirements. This includes:

- vocational competencies at least to the level being delivered and assessed
- current industry skills directly relevant to the training and assessment being provided
- current knowledge and skills in vocational training and learning that informs their training and assessment
- formal relevant qualifications in training and assessment
- having knowledge of and/or experience using the latest techniques and processes
- possessing the required level of RII training product knowledge
- having an understanding and knowledge of legislation and regulations relevant to the industry and to employment and workplaces
- demonstrating the performance evidence, and knowledge evidence outlined in this unit of competency, and
- the minimum years of current** work experience after competency has been obtained as specified below in an industry sector relevant to the outcomes of the unit.

It is also acceptable for the appropriately qualified assessor to work with an industry expert to conduct assessment together and for the industry expert to be involved in the assessment judgement. The industry expert must have current industry skills directly relevant to the training and assessment being provided. This means the industry subject matter expert must demonstrate skills and knowledge from the minimum years of current work experience after competency has been obtained as specified below, including time spent in roles related to the unit being assessed:

Industry sector	AQF indicator level***	Required assessor or industry subject matter expert experience
Drilling, Metalliferous Mining, Coal Mining, Extractive (Quarrying) and Civil Infrastructure	1	1 year
	2	2 years
Drilling, Coal Mining, Extractive (Quarrying), Metalliferous Mining and Civil Infrastructure	3-6	3 years
Other sectors	Where this unit is being assessed outside of the resources and infrastructure sectors assessor and/or industry subject matter expert experience should be in-line with industry standards for the sector in which it is being assessed and where no industry standard is specified should comply with any relevant regulation.	

*Guidance on simulated environments has been stipulated in the RII Companion Volume Implementation Guide located on VETNet.

**Assessors can demonstrate current work experience through employment within industry in a role relevant to the outcomes of the unit; or, for external assessors this can be demonstrated through exposure to industry by conducting a minimum number of site assessments as determined by the relevant industry sector, across various locations.

*** While a unit of competency does not have an AQF level, where a unit is being delivered outside of a qualification the first numeric character in the unit code should be considered as the AQF indicator level for assessment purposes.

Links

Companion Volume Implementation Guide is found on VETNet -

<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=88a61002-9a21-4386-aaf8-69c76e675272>

RIICCM207E Spread and compact materials manually

Modification History

Release	Comments
Release 1	This version first released with RII Resources and Infrastructure Industry Training Package Version 6.0.

Application

This unit describes the skills and knowledge required to spread and compact materials manually in civil construction, including conducting compaction machine operational checks, directing vehicles and materials, directing machine operator to spread materials and operating mechanical compaction equipment.

It applies to those working in operational roles. They generally work under supervision to undertake a prescribed range of functions involving known routines and procedures and take some responsibility for the quality of work outcomes.

Licensing, legislative and certification requirements that apply to this unit can vary between states, territories, and industry sectors. Users must check requirements with relevant body before applying the unit.

Unit Sector

Civil construction

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
1. Plan and prepare for manually spreading and compacting materials	1.1 Obtain, interpret and confirm work requirements 1.2 Access, interpret and apply documentation required to spread and compact materials manually 1.3 Obtain and interpret emergency procedures and identify steps required to respond to emergencies 1.4 Select and wear personal protective equipment according to site requirements 1.5 Confirm and identify requirements for complying with environmental

ELEMENT	PERFORMANCE CRITERIA
	protection, safety and traffic management signage requirements 1.6 Identify, address and report environmental issues, potential hazards and risks 1.7 Select plant, tools and equipment required to carry out tasks and check for faults 1.8 Identify, confirm, and locate materials required for work application
2. Conduct compaction machine operational checks	2.1 Carry out pre-start, start-up and shutdown procedures 2.2 Check machine controls and functions for serviceability and rectify or report any faults
3. Spread and compact materials	3.1 Conduct basic field identification test and identify material type 3.2 Direct trucks to required location for loading and/or dumping 3.3 Direct delivered and/or relocated materials to correct location 3.4 Check manufactured material for segregation 3.5 Conduct field test and confirm material moisture is suitable 3.6 Direct machine operator to spread materials to specified levels 3.7 Finish materials by hand to specified levels 3.8 Operate mechanical compaction equipment and consolidate materials into layers 3.9 Conduct field test and confirm compaction has been achieved in restricted locations
4. Conduct housekeeping activities	4.1 Clear work area and dispose of or recycle materials according to site requirements 4.2 Clean and maintain condition of equipment, confirm suitability for use, and address and report issues as required within scope of own role 4.3 Manage and report hazards, and maintain a safe working environment 4.4 Process written records according to site requirements

Foundation Skills

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

Skill	Description
Numeracy	Calculates basic measurements including mass and dimensions
Self-management	Monitors and minimises own exposure to worksite risks and hazards during work activities

Unit Mapping Information

Supersedes and is equivalent to RIICCM207D Spread and compact materials manually.

Links

Companion Volume Implementation Guide is found on VETNet -

<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=88a61002-9a21-4386-aaf8-69c76e675272>

Assessment Requirements for RIICCM207E Spread and compact materials manually

Modification History

Release	Comments
Release 1	This version first released with RII Resources and Infrastructure Industry Training Package Version 6.0.

Performance Evidence

The candidate must demonstrate the ability to complete the tasks outlined in the elements, performance criteria and foundation skills of this unit, including evidence of the ability to:

- spread and compact materials manually on at least two occasions, including:
 - completing the hand spreading and the mechanical (hand operated) compaction of two different material types to site specification.

During the above, the candidate must:

- locate and apply required legislation, documentation, policies and procedures
- identify, report and record hazards and risks
- implement the requirements, procedures and techniques for the manual spreading and compacting of materials, including:
 - selecting and using required tools and equipment
 - carrying out equipment pre-start, start-up and shutdown procedures
 - conducting practical field tests for moisture content, shrinkage and compaction
- work with others to spread and compact materials manually to meet required outcomes, including:
 - communicating to direct operators
 - using communication techniques and equipment to convey information to others, including signage to advise others of work activity and exclusion zones
 - completing reporting requirements and procedures.

Knowledge Evidence

The candidate must be able to demonstrate knowledge to complete the tasks outlined in the elements, performance criteria and foundation skills of this unit, including knowledge of:

- legislation required to spread and compact materials manually
- policies, procedures and documentation required to spread and compact materials manually, including those relating to:

- hazard and risk management
- work health and safety
- emergency response
- site and equipment safety
- environmental protection waste management
- communication techniques and equipment
- workplace recording and reporting
- site isolation and traffic control responsibilities
- operational, maintenance and basic diagnostic procedures
- project quality requirements
- job plans and specifications
- housekeeping activities, including:
 - cleaning work area
 - cleaning and maintaining condition of equipment
 - waste management
 - processing records
- principles and techniques required to spread and compact materials manually, including those related to:
 - organising work activities
 - soil technology
 - civil works
 - soil compaction theory, including the effects of moisture and mechanical interlock
 - basic field identification tests
 - hand operated mechanical compaction
 - site specifications
- types, characteristics, technical capabilities and limitations of plant and equipment required to spread and compact materials manually, including:
 - mechanical compaction equipment
 - rakes
 - shovels
- materials safety data sheet (SDS) compliance processes
- components of job safety analyses (JSAs), job safety environmental analyses (JSEAs), and safe work method statements (SWMs)
- civil construction terminology related to spreading and compacting materials manually.

Assessment Conditions

Mandatory conditions for assessment of this unit are stipulated below. The assessment must:

- include access to:
 - personal protective equipment
 - equipment required to spread and compact materials manually

- be conducted in a safe environment; and,
- be assessed in the context of this sector's work environment; and,
- be assessed in compliance with relevant legislation/regulation and using policies, procedures and processes directly related to the industry sector for which it is being assessed; and,
- confirm consistent performance can be applied in a range of relevant workplace circumstances.

Where personal safety or environmental damage are limiting factors, assessment may occur in a simulated work environment* provided it is realistic and sufficiently rigorous to cover all aspects of this sector's workplace performance, including environment, task skills, task management skills, contingency management skills and job role environment skills.

• **Assessor requirements**

Assessors must be able to clearly demonstrate current and relevant industry knowledge and experience to satisfy the mandatory regulatory standards as set out in the Standards for Registered Training Organisations 2015/Australian Quality Training Framework mandatory requirements for assessors current at the time of assessment and any relevant licensing and certification requirements. This includes:

- vocational competencies at least to the level being delivered and assessed
- current industry skills directly relevant to the training and assessment being provided
- current knowledge and skills in vocational training and learning that informs their training and assessment
- formal relevant qualifications in training and assessment
- having knowledge of and/or experience using the latest techniques and processes
- possessing the required level of RII training product knowledge
- having an understanding and knowledge of legislation and regulations relevant to the industry and to employment and workplaces
- demonstrating the performance evidence, and knowledge evidence outlined in this unit of competency, and
- the minimum years of current** work experience after competency has been obtained as specified below in an industry sector relevant to the outcomes of the unit.

It is also acceptable for the appropriately qualified assessor to work with an industry expert to conduct assessment together and for the industry expert to be involved in the assessment judgement. The industry expert must have current industry skills directly relevant to the training and assessment being provided. This means the industry subject matter expert must demonstrate skills and knowledge from the minimum years of current work experience after competency has been obtained as specified below, including time spent in roles related to the unit being assessed:

Industry sector	AQF indicator level***	Required assessor or industry subject matter expert experience
Drilling, Metalliferous Mining, Coal Mining, Extractive (Quarrying)	1	1 year
	2	2 years

and Civil Infrastructure		
Drilling, Coal Mining, Extractive (Quarrying), Metalliferous Mining and Civil Infrastructure	3-6	3 years
Other sectors	Where this unit is being assessed outside of the resources and infrastructure sectors assessor and/or industry subject matter expert experience should be in-line with industry standards for the sector in which it is being assessed and where no industry standard is specified should comply with any relevant regulation.	

*Guidance on simulated environments has been stipulated in the RII Companion Volume Implementation Guide located on VETNet.

**Assessors can demonstrate current work experience through employment within industry in a role relevant to the outcomes of the unit; or, for external assessors this can be demonstrated through exposure to industry by conducting a minimum number of site assessments as determined by the relevant industry sector, across various locations.

*** While a unit of competency does not have an AQF level, where a unit is being delivered outside of a qualification the first numeric character in the unit code should be considered as the AQF indicator level for assessment purposes.

Links

Companion Volume Implementation Guide is found on VETNet -
<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=88a61002-9a21-4386-aaf8-69c76e675272>

RIICCM208E Carry out basic levelling

Modification History

Release	Comments
Release 1	This version first released with RII Resources and Infrastructure Industry Training Package Version 6.0.

Application

This unit describes the skills and knowledge required to carry out basic levelling in civil construction, including establishing offsets to plans and drawings and setting up and using a levelling device.

It applies to those working in operational roles. They generally work under supervision to undertake a prescribed range of functions involving known routines and procedures and take some responsibility for the quality of work outcomes.

Licensing, legislative and certification requirements that apply to this unit can vary between states, territories, and industry sectors. Users must check requirements with relevant body before applying the unit.

Unit Sector

Civil construction

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
1. Plan and prepare for basic levelling	1.1 Obtain, interpret and confirm work requirements 1.2 Access, interpret and apply documentation required to carry out basic levelling 1.3 Obtain and interpret emergency procedures and identify steps required to respond to emergencies 1.4 Select and wear personal protective equipment according to site requirements 1.5 Confirm and identify requirements for complying with environmental protection, safety and traffic management signage requirements

ELEMENT	PERFORMANCE CRITERIA
	1.6 Identify, address and report environmental issues, potential hazards and risks 1.7 Select plant, tools and equipment required to carry out tasks and check for faults 1.8 Identify, confirm, and locate materials required for work application
2. Establish offsets to plans and drawings	2.1 Establish offset and recovery pegs from survey controls to specified plans and drawings 2.2 Re-establish earthwork and pavement control lines from offsets and/or recovery pegs 2.3 Establish drainage offsets from survey control
3. Set up and use levelling device	3.1 Identify heights to be transferred or established from project plans or instructions 3.2 Set up and use levelling instruments and complete levelling according to job requirements 3.3 Transfer heights from the known to the required 3.4 Document results of levelling procedure according to site requirements
4. Conduct housekeeping activities	4.1 Clear work area and dispose of or recycle materials according to site requirements 4.2 Clean and maintain condition of equipment, confirm suitability for use, and address and report issues as required within scope of own role 4.3 Manage and report hazards, and maintain a safe working environment 4.4 Process records according to site requirements

Foundation Skills

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

Skill	Description
Numeracy	Calculates basic measurements including mass and dimensions
Oral communication	Uses communication techniques and systems to communicate with others

Unit Mapping Information

Supersedes and is equivalent to RIICCM208D Carry out basic levelling.

Links

Companion Volume Implementation Guide is found on VETNet -

<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=88a61002-9a21-4386-aaf8-69c76e675272>

Assessment Requirements for RIICCM208E Carry out basic levelling

Modification History

Release	Comments
Release 1	This version first released with RII Resources and Infrastructure Industry Training Package Version 6.0.

Performance Evidence

The candidate must demonstrate the ability to complete the tasks outlined in the elements, performance criteria and foundation skills of this unit, including evidence of the ability to:

- carry out basic levelling on at least two occasions, including:
 - using an automatic level on at least one occasion
 - using closed traverse which utilises either the height of instrument or rise and fall method of reduction on at least one occasion
 - conducting a peg test with an automatic level to confirm instrument meets manufacturer tolerances
 - recording results of each levelling procedure according to organisational requirements.

During the above, the candidate must:

- locate and apply required legislation, documentation, policies and procedures
- identify, report and record hazards and risks
- implement the requirements, procedures and techniques for basic levelling including:
 - selecting and using required tools and equipment
 - carrying out basic levelling mathematics
 - following basic civil construction processes
- work with others to complete basic levelling that meets required outcomes, including:
 - communicating with others to receive and clarify work instructions
 - using communication techniques and equipment to convey information to others, including signage to advise others of work activity and exclusion zones
 - complying with reporting requirements and procedures.

Knowledge Evidence

The candidate must be able to demonstrate knowledge to complete the tasks outlined in the elements, performance criteria and foundation skills of this unit, including knowledge of:

- legislation required to carry out basic levelling
- policies, procedures and documentation required to carry out basic levelling, including those relating to:
 - hazard and risk management
 - work health and safety
 - emergency response
 - site and equipment safety
 - environmental protection waste management
 - communication techniques and equipment
 - workplace recording and reporting
 - site isolation and traffic control responsibilities
 - operational, maintenance and basic diagnostic procedures
 - project quality requirements
 - job plans and specifications
 - housekeeping activities, including:
 - cleaning up work area
 - cleaning and maintaining condition of equipment
 - waste management
 - processing records
- principles and techniques required to carry out basic levelling, including those related to:
 - organising work activities
 - levelling tasks
 - tolerance checks, including:
 - two peg test for automatic level
 - reverse readings for spirit level
 - reading and applying civil construction plans
 - basic symbols
 - levelling procedures, including:
 - open or close traverse utilising height of instrument
 - rise and fall methods of reduction
- types, characteristics, technical capabilities and limitations of plant and equipment required to carry out basic levelling, including:
 - spirit levels
 - wooded or steel pegs
 - straight edges
 - hammers
 - chalk lines
- materials safety data sheet (SDS) compliance processes
- components of job safety analyses (JSAs), job safety environmental analyses (JSEAs), and safe work method statements (SWMs)

- civil construction terminology related to carrying out basic levelling.

Assessment Conditions

Mandatory conditions for assessment of this unit are stipulated below. The assessment must:

- include access to:
 - personal protective equipment
 - equipment required to carry out basic levelling
- be conducted in a safe environment; and,
- be assessed in the context of this sector's work environment; and,
- be assessed in compliance with relevant legislation/regulation and using policies, procedures and processes directly related to the industry sector for which it is being assessed; and,
- confirm consistent performance can be applied in a range of relevant workplace circumstances.

Where personal safety or environmental damage are limiting factors, assessment may occur in a simulated work environment* provided it is realistic and sufficiently rigorous to cover all aspects of this sector's workplace performance, including environment, task skills, task management skills, contingency management skills and job role environment skills.

• Assessor requirements

Assessors must be able to clearly demonstrate current and relevant industry knowledge and experience to satisfy the mandatory regulatory standards as set out in the Standards for Registered Training Organisations 2015/Australian Quality Training Framework mandatory requirements for assessors current at the time of assessment and any relevant licensing and certification requirements. This includes:

- vocational competencies at least to the level being delivered and assessed
- current industry skills directly relevant to the training and assessment being provided
- current knowledge and skills in vocational training and learning that informs their training and assessment
- formal relevant qualifications in training and assessment
- having knowledge of and/or experience using the latest techniques and processes
- possessing the required level of RII training product knowledge
- having an understanding and knowledge of legislation and regulations relevant to the industry and to employment and workplaces
- demonstrating the performance evidence, and knowledge evidence outlined in this unit of competency, and
- the minimum years of current** work experience after competency has been obtained as specified below in an industry sector relevant to the outcomes of the unit.

It is also acceptable for the appropriately qualified assessor to work with an industry expert to conduct assessment together and for the industry expert to be involved in the assessment judgement. The industry expert must have current industry skills directly relevant to the training and assessment being provided. This means the industry subject matter expert must demonstrate skills and knowledge from the minimum years of current work experience after competency has been obtained as specified below, including time spent in roles related to the unit being assessed:

Industry sector	AQF indicator level***	Required assessor or industry subject matter expert experience
Drilling, Metalliferous Mining, Coal Mining, Extractive (Quarrying) and Civil Infrastructure	1	1 year
	2	2 years
Drilling, Coal Mining, Extractive (Quarrying), Metalliferous Mining and Civil Infrastructure	3-6	3 years
Other sectors	Where this unit is being assessed outside of the resources and infrastructure sectors assessor and/or industry subject matter expert experience should be in-line with industry standards for the sector in which it is being assessed and where no industry standard is specified should comply with any relevant regulation.	

*Guidance on simulated environments has been stipulated in the RII Companion Volume Implementation Guide located on VETNet.

**Assessors can demonstrate current work experience through employment within industry in a role relevant to the outcomes of the unit; or, for external assessors this can be demonstrated through exposure to industry by conducting a minimum number of site assessments as determined by the relevant industry sector, across various locations.

*** While a unit of competency does not have an AQF level, where a unit is being delivered outside of a qualification the first numeric character in the unit code should be considered as the AQF indicator level for assessment purposes.

Links

Companion Volume Implementation Guide is found on VETNet -

<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=88a61002-9a21-4386-aaf8-69c76e675272>

RIICCM210E Install trench support

Modification History

Release	Comments
Release 1	This version first released with RII Resources and Infrastructure Industry Training Package Version 6.0.

Application

This unit describes the skills and knowledge required to install trench support in civil construction, including both installing and removing trench shoring.

It applies to those working in operational roles. They generally work under supervision to undertake a prescribed range of functions involving known routines and procedures and take some responsibility for the quality of work outcomes.

Licensing, legislative and certification requirements that apply to this unit can vary between states, territories, and industry sectors. Users must check requirements with relevant body before applying the unit.

Unit Sector

Civil construction.

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
1. Plan and prepare for installing trench support	1.1 Obtain interpret and confirm work requirements 1.2 Access, interpret and apply documentation required to install trench support 1.3 Obtain and interpret emergency procedures and identify steps required to respond to emergencies 1.4 Select and wear personal protective equipment according to site requirements 1.5 Confirm and identify requirements for complying with environmental protection, safety and traffic management signage requirements 1.6 Identify, address and report environmental issues, potential hazards

ELEMENT	PERFORMANCE CRITERIA
	and risks 1.7 Select plant, tools and equipment required to carry out tasks and check for faults 1.8 Identify, confirm, and locate materials required for work application
2. Install trench shoring	2.1 Communicate with plant operator and confirm excavation of trenches complies with site plan, line and depth 2.2 Determine and prepare shoring method according to job requirements 2.3 Set out positioning of shoring according to job requirements 2.4 Position or erect shoring within the trench according to job requirements 2.5 Secure shoring in position according to structural conformity requirements 2.6 Clean out excavation according to site requirements 2.7 Locate ladders for safe access and egress
3. Remove trench shoring	3.1 Release jacking mechanisms and remove ladders 3.2 Check shoring and prepare it for lifting from the trench 3.3 Remove shoring from trench and store it according to site requirements
4. Conduct housekeeping activities	4.1 Clear work area and dispose of or recycle materials according to site requirements 4.2 Clean and maintain condition of equipment, confirm suitability for use, and address and report issues as required within scope of own role 4.3 Manage and report hazards, and maintain a safe working environment 4.4 Process records according to site requirements

Foundation Skills

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

Skill	Description
Self-management	Monitors and minimises own exposure to worksite risks and hazards during work activities

Unit Mapping Information

Supersedes and is equivalent to RIICCM210D Install trench support.

Links

Companion Volume Implementation Guide is found on VETNet -

<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=88a61002-9a21-4386-aaf8-69c76e675272>

Assessment Requirements for RIICCM210E Install trench support

Modification History

Release	Comments
Release 1	This version first released with RII Resources and Infrastructure Industry Training Package Version 6.0.

Performance Evidence

The candidate must demonstrate the ability to complete the tasks outlined in the elements, performance criteria and foundation skills of this unit, including evidence of the ability to:

- install trench support on at least two occasions, including:
 - in trenches deeper than 1.5 metres requiring the trench support to be installed, moved along or within the trench, and removed from the trench.

During the above, the candidate must:

- locate and apply required legislation, documentation, policies and procedures
- identify, report and record hazards and risks
- implement the requirements, procedures and techniques for trench support installation including:
 - selecting and using required tools and equipment
 - using shoring methods and systems
 - working in confined spaces
- work with others to install trench support that meet required outcomes, including:
 - communicating with others to receive and confirm work requirements
 - using communication techniques and equipment to convey information to others including signage to advise others of work activity and exclusion zones
 - complying with reporting requirements and procedures.

Knowledge Evidence

The candidate must be able to demonstrate knowledge to complete the tasks outlined in the elements, performance criteria and foundation skills of this unit, including knowledge of:

- legislation required to install trench support
- policies, procedures and documentation required to install trench support, including those relating to:

- hazard and risk management
- work health and safety
- working in confined spaces
- emergency response
- site and equipment safety
- environmental protection waste management
- communication techniques and equipment
- workplace recording and reporting
- site isolation and traffic control responsibilities
- operational, maintenance and basic diagnostic procedures
- project quality requirements
- job plans and specifications
- housekeeping activities, including:
 - cleaning up work area
 - cleaning and maintaining condition of equipment
 - waste management
 - processing records
- principles and techniques required to install trench support, including those related to:
 - organising work activities
 - excavation of:
 - trenches
 - wells
 - pits
 - construction
 - shoring methods
 - erecting shoring, including:
 - using trench shoring mechanisms
 - using shoring securing mechanisms
- types, characteristics, technical capabilities and limitations of plant and equipment required to install trench support, including:
 - shoring systems
 - levelling equipment
 - hand and power tools
 - measuring equipment
 - scaffolding
 - elevated work platforms
 - slings
- materials safety data sheet (SDS) compliance processes
- components of job safety analyses (JSAs), job safety environmental analyses (JSEAs), and safe work method statements (SWMs)

- civil construction terminology related to installing trench support.

Assessment Conditions

Mandatory conditions for assessment of this unit are stipulated below. The assessment must:

- include access to:
 - personal protective equipment
 - equipment required to install trench support
- be conducted in a safe environment; and,
- be assessed in the context of this sector's work environment; and,
- be assessed in compliance with relevant legislation/regulation and using policies, procedures and processes directly related to the industry sector for which it is being assessed; and,
- confirm consistent performance can be applied in a range of relevant workplace circumstances.

Where personal safety or environmental damage are limiting factors, assessment may occur in a simulated work environment* provided it is realistic and sufficiently rigorous to cover all aspects of this sector's workplace performance, including environment, task skills, task management skills, contingency management skills and job role environment skills.

• Assessor requirements

Assessors must be able to clearly demonstrate current and relevant industry knowledge and experience to satisfy the mandatory regulatory standards as set out in the Standards for Registered Training Organisations 2015/Australian Quality Training Framework mandatory requirements for assessors current at the time of assessment and any relevant licensing and certification requirements. This includes:

- vocational competencies at least to the level being delivered and assessed
- current industry skills directly relevant to the training and assessment being provided
- current knowledge and skills in vocational training and learning that informs their training and assessment
- formal relevant qualifications in training and assessment
- having knowledge of and/or experience using the latest techniques and processes
- possessing the required level of RII training product knowledge
- having an understanding and knowledge of legislation and regulations relevant to the industry and to employment and workplaces
- demonstrating the performance evidence, and knowledge evidence outlined in this unit of competency, and
- the minimum years of current** work experience after competency has been obtained as specified below in an industry sector relevant to the outcomes of the unit.

It is also acceptable for the appropriately qualified assessor to work with an industry expert to conduct assessment together and for the industry expert to be involved in the assessment judgement. The industry expert must have current industry skills directly relevant to the training and assessment being provided. This means the industry subject matter expert must demonstrate skills and knowledge from the minimum years of current work experience after competency has been obtained as specified below, including time spent in roles related to the unit being assessed:

Industry sector	AQF indicator level***	Required assessor or industry subject matter expert experience
Drilling, Metalliferous Mining, Coal Mining, Extractive (Quarrying) and Civil Infrastructure	1	1 year
	2	2 years
Drilling, Coal Mining, Extractive (Quarrying), Metalliferous Mining and Civil Infrastructure	3-6	3 years
Other sectors	Where this unit is being assessed outside of the resources and infrastructure sectors assessor and/or industry subject matter expert experience should be in-line with industry standards for the sector in which it is being assessed and where no industry standard is specified should comply with any relevant regulation.	

*Guidance on simulated environments has been stipulated in the RII Companion Volume Implementation Guide located on VETNet.

**Assessors can demonstrate current work experience through employment within industry in a role relevant to the outcomes of the unit; or, for external assessors this can be demonstrated through exposure to industry by conducting a minimum number of site assessments as determined by the relevant industry sector, across various locations.

*** While a unit of competency does not have an AQF level, where a unit is being delivered outside of a qualification the first numeric character in the unit code should be considered as the AQF indicator level for assessment purposes.

Links

Companion Volume Implementation Guide is found on VETNet -

<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=88a61002-9a21-4386-aaf8-69c76e675272>

RIICRC208E Lay pipes

Modification History

Release	Comments
Release 1	This version first released with RII Resources and Infrastructure Industry Training Package Version 6.0.

Application

This unit describes the skills and knowledge required to lay pipes in civil construction, including setting out and conducting excavation, preparing foundations, installing bedding and laying pipe.

It applies to those working in operational roles. They generally work under supervision to undertake a prescribed range of functions involving known routines and procedures and take some responsibility for the quality of work outcomes.

Licensing, legislative and certification requirements that apply to this unit can vary between states, territories and industry sectors. Users must check requirements with relevant body before applying the unit.

Unit Sector

Civil construction

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
1. Plan and prepare to lay pipes	1.1 Obtain, interpret, clarify and confirm work requirements 1.2 Access, interpret and apply documentation required to lay pipes 1.3 Identify and address potential risks, hazards and environmental issues, and implement control measures within scope of own role 1.4 Select and wear personal protective equipment according to site requirements 1.5 Identify, obtain, confirm and implement signage requirements 1.6 Select plant, tools and equipment required to carry out tasks and check for faults

ELEMENT	PERFORMANCE CRITERIA
	1.7 Survey work area for loading and unloading and stockpiling materials
2. Set out excavation	2.1 Determine location and depth of excavation according to job requirements 2.2 Set out and mark excavation location according to job requirements 2.3 Advise plant operator of excavation requirements 2.4 Check excavation depths and grades against job requirements 2.5 Compact and prepare foundation base for testing
3. Install bedding materials	3.1 Determine bedding material type and specification according to job plans and drawings 3.2 Lay and compact bedding materials to specified depths and grades according to job requirements
4. Lay pipe	4.1 Select, check and attach lifting apparatus to the pipe in preparation for lifting and installation for pipe joining 4.2 Prepare and specify pipe ends according to job requirements 4.3 Align pipe ends and push home 4.4 Check pipe for line and level 4.5 Advise plant operator of backfilling requirements and backfill and compact pipe to finish level according to job requirements 4.6 Finish inlets and outlets according to pipe or culvert design specifications
5. Conduct clean-up activities	5.1 Clear work area and dispose of or recycle materials according to site requirements 5.2 Clean, check, maintain and store tools and equipment according to site requirements

Foundation Skills

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

SKILL	DESCRIPTION
Numeracy	Calculates basic measurements, including mass and dimensions
Self-management	Monitors and minimises own exposure to worksite risks and hazards during work activities

Unit Mapping Information

Supersedes and is equivalent to RIICRC208D Lay pipes.

Links

Companion Volume Implementation Guide is found on VETNet -

<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=88a61002-9a21-4386-aaf8-69c76e675272>

Assessment Requirements for RIICRC208E Lay pipes

Modification History

Release	Comments
Release 1	This version first released with RII Resources and Infrastructure Industry Training Package Version 6.0.

Performance Evidence

The candidate must demonstrate the ability to complete the tasks outlined in the elements, performance criteria and foundation skills of this unit, including evidence of the ability to:

- lay pipes on at least two occasions, including:
 - installing pipe to at least ten pipe joints with a minimum diameter nominal (DN) of 225mm
 - setting out and conducting excavation in specified location, depth and grades according to job drawings and specifications
 - compacting and preparing foundation base for testing
 - installing required bedding materials
 - laying pipes to specified line and level according to job requirements
 - finishing inlets and outlets according to pipe or culvert design specifications
 - advising plant operator of backfilling requirements
 - clearing work area and disposing of, recycling or storing materials.

During the above, the candidate must:

- locate and apply required documentation, policies and procedures
- implement the requirements, procedures and techniques to lay pipes, including:
 - identifying and applying relevant drawings and job specifications to all work activities
 - identifying, addressing and reporting potential hazards and risks
 - identifying, obtaining, confirming and implementing signage requirements
 - selecting and checking for faults all plant, tools and equipment required to carry out tasks
 - identifying, addressing and reporting environmental issues and ground conditions
 - surveying work area for loading and unloading and stockpiling materials
- work with others to lay pipes in a way that meets requirements, including:
 - preparing for and organising work activities to meet task requirements
 - communicating with others to receive and clarify work instructions

- using communication techniques and aids to advise others of work activity and exclusion zones
- monitoring hazards and identifying and communicating changes to work environment.

Knowledge Evidence

The candidate must be able to demonstrate knowledge to complete the tasks outlined in the elements, performance criteria and foundation skills of this unit, including knowledge of:

- legislation required to lay pipes
- policies, procedures and documentation required to lay pipes, including those relating to:
 - site requirements
 - relevant drawings and job specifications
 - hazard and risk management
 - environmental protection and ground conditions
 - work activity set up procedures
 - communication techniques and aids
 - project quality requirements
 - site isolation and traffic control responsibilities
 - work health and safety
 - waste management
- types, characteristics, technical capabilities and limitations of equipment required to lay pipes
- principles and techniques for effective pipe laying, including:
 - fibre reinforce concrete (FRC) pipes
 - reinforced concrete pipes (RCP)
 - ribbed polyvinyl chloride (PVC) pipes
 - steel pipes
 - techniques for bedding down pipes
 - techniques for finish inlets and outlets
 - pipe joining techniques, including:
 - sand band
 - rubber band
 - mechanical joint.

Assessment Conditions

Mandatory conditions for assessment of this unit are stipulated below. The assessment must:

- include access to:
 - personal protective equipment
 - equipment required to lay pipes
- be conducted in a safe environment; and,

- be assessed in the context of this sector's work environment; and,
- be assessed in compliance with relevant legislation/regulation and using policies, procedures and processes directly related to the industry sector for which it is being assessed; and,
- confirm consistent performance can be applied in a range of relevant workplace circumstances.

Where personal safety or environmental damage are limiting factors, assessment may occur in a simulated work environment* provided it is realistic and sufficiently rigorous to cover all aspects of this sector's workplace performance, including environment, task skills, task management skills, contingency management skills and job role environment skills.

• **Assessor requirements**

Assessors must be able to clearly demonstrate current and relevant industry knowledge and experience to satisfy the mandatory regulatory standards as set out in the Standards for Registered Training Organisations (RTOs) 2015/Australian Quality Training Framework mandatory requirements for assessors current at the time of assessment and any relevant licensing and certification requirements. This includes:

- vocational competencies at least to the level being delivered and assessed
- current industry skills directly relevant to the training and assessment being provided
- current knowledge and skills in vocational training and learning that informs their training and assessment
- formal relevant qualifications in training and assessment
- having knowledge of and/or experience using the latest techniques and processes
- possessing the required level of RII training product knowledge
- having an understanding and knowledge of legislation and regulations relevant to the industry and to employment and workplaces
- demonstrating the performance evidence, and knowledge evidence outlined in this unit of competency, and
- the minimum years of current** work experience after competency has been obtained as specified below in an industry sector relevant to the outcomes of the unit.

It is also acceptable for the appropriately qualified assessor to work with an industry expert to conduct assessment together and for the industry expert to be involved in the assessment judgement. The industry expert must have current industry skills directly relevant to the training and assessment being provided. This means the industry subject matter expert must demonstrate skills and knowledge from the minimum years of current work experience after competency has been obtained as specified below, including time spent in roles related to the unit being assessed:

Industry sector	AQF indicator level***	Required assessor or industry subject matter expert experience
Drilling, Metalliferous Mining, Coal Mining, Extractive (Quarrying) and Civil Infrastructure	1	1 year
	2	2 years

Drilling, Coal Mining, Extractive (Quarrying), Metalliferous Mining and Civil Infrastructure	3-6	3 years
Other sectors	Where this unit is being assessed outside of the resources and infrastructure sectors assessor and/or industry subject matter expert experience should be in-line with industry standards for the sector in which it is being assessed and where no industry standard is specified should comply with any relevant regulation.	

*Guidance on simulated environments has been stipulated in the Companion Volume Implementation Guide located on VETNet.

**Assessors can demonstrate current work experience through employment within industry in a role relevant to the outcomes of the unit; or, for external assessors this can be demonstrated through exposure to industry by conducting a minimum number of site assessments as determined by the relevant industry sector, across various locations.

*** While a unit of competency does not have an AQF level, where a unit is being delivered outside of a qualification the first numeric character in the unit code should be considered as the AQF indicator level for assessment purposes.

Links

Companion Volume Implementation Guide is found on VETNet -
<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=88a61002-9a21-4386-aaf8-69c76e675272>

RIIHAN309F Conduct telescopic materials handler 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 conduct telescopic materials handler 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

Drilling

Civil Infrastructure

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
1. Plan and prepare for telescopic materials handler operations	1.1 Access, interpret and apply telescopic materials handler documentation 1.2 Obtain, interpret, clarify and confirm work requirements 1.3 Identify hazards and environmental issues, assess the risks and implement control measures in line with workplace policies 1.4 Select and wear personal protective equipment required for work

ELEMENT	PERFORMANCE CRITERIA
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
	activities 1.5 Identify, obtain and apply signage requirements in line with workplace procedures 1.6 Select required telescopic materials handler equipment or attachments and confirm the suitability of the work activities 1.7 Coordinate and communicate planned activities with other at the site prior to commencement of work activity
2. Operate telescopic materials handler in line with established requirements	2.1 Perform pre-start and start-up check in line with workplace procedures 2.2 Check telescopic materials handler controls, brakes, attachments and other implements for manoeuvrability and serviceability and ensure faults are rectified or reported within scope of own responsibility and according to workplace procedures 2.3 Assess site and operating hazards and apply safe operating techniques 2.4 Operate telescopic materials handler using techniques suited to equipment capabilities, site and work conditions, and according to workplace procedures
3. Attach, secure, lift, carry and place materials to complete work activity	3.1 Use load handling communication methods as per standard operating procedures with all parties 3.2 Communicate with dogman to establish the weight of the load 3.3 Communicate with dogman to ensure safe working load requirements have been assessed and appropriate slings and lifting gear has been selected, attached and secured in line with workplace procedures 3.4 Locate machinery to ensure stable and effective shift of materials according to work requirements 3.5 Shift the load safely and effectively, using hand, audible and communication signals, in line with workplace procedures 3.6 Park up, shut down, secure and carry out post operational inspection of equipment in line with workplace procedures
4. Select, remove, fit and use attachments for a telescopic materials handler	4.1 Select attachment for the task and move and fit attachment in line with workplace procedures 4.2 Test and confirm correct fitting and operation 4.3 Use attachment within design limits and in accordance with

ELEMENT	PERFORMANCE CRITERIA
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
	workplace procedures 4.4 Remove, clean and store attachment in line with workplace procedures
5. Relocate the telescopic materials handler	5.1 Prepare machine and equipment for relocation in line with safe work practices 5.2 Transport machine and equipment safely between worksites, observing relevant site codes and traffic management requirements
6. Conduct housekeeping activities	6.1 Clean-up work area and dispose or recycle materials according to workplace procedures. 6.2 Manage and/or report hazards to maintain a safe working environment 6.3 Complete and file or distribute documentation in a manner that complies with workplace practices

Foundation Skills

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

Skill	Description
Reading	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
RIIHAN309F Conduct telescopic materials handler operations (Release	RIIHAN309E Conduct telescopic materials handler operations (Release 1)	Minor updates to reflect changes to operator maintenance and relocation	Equivalent

1)		activities, and assessment conditions for attachments.	

Links

Companion Volume implementation guides are found in VETNet -
<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=88a61002-9a21-4386-aaf8-69c76e675272>

Assessment Requirements for RIIHAN309F Conduct telescopic materials handler 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 telescope materials handler operations that safely, effectively and efficiently follow workplace procedures to carry out work activity on at least two occasions, and include:

- performing pre-start, start-up and shutdown procedures
- checking controls, brakes and attachments for manoeuvrability and serviceability and rectifying or reporting faults
- operating the telescopic materials handler
- attaching and securing appropriate lifting gear
- shifting the load
- selecting, fitting, testing, using and removing attachments, which must be certified and approved in line with workplace procedures
- transporting the machine and equipment between work sites
- parking and securing equipment

In the course of the above the candidate must also:

- locate and apply required documentation, policies and procedures
- select and wear personal protective equipment required for work activities
- apply safe work practices, identifying and reporting potential hazards and environmental issues, and assess risks
- access, interpret and apply technical information
- apply fault finding techniques
- monitor and manage equipment performance using indicators and alarms
- identify common equipment faults
- 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 telescopic materials handler 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 telescopic materials handler operations, including those relating to:

- isolation and traffic control responsibilities and authorities
- safety data sheet and hazardous materials handling methods
- development and compliance with job safety analyses and safe work method statement
- maintenance and basic diagnostic
- recyclable materials
- housekeeping activities
- environmental management plan

Key factors affecting work activities described in performance evidence above, including:

- telescopic materials handler types, characteristics, technical capabilities and limitations
- calculating safe working loads
- methods of changing machine attachments
- safe operating techniques in varying terrain
- telescopic materials handler and attachment operating techniques

Assessment Conditions

Mandatory conditions for assessment of this unit are stipulated below. The assessment must:

- include access to:
 - telescopic materials handler
 - attachments
 - personal protective equipment
- be conducted in a safe environment and,
- be assessed in context of this sector's work environment and,
- be assessed in compliance with relevant legislation/regulation and using policies, procedures, processes and operational manuals directly related to the industry sector for which it is being assessed and
- confirm consistent performance can be applied in a range of relevant workplace circumstances

Where personal safety or environmental damage are limiting factors, assessment may occur in a simulated work environment* provided it is realistic and sufficiently rigorous to cover all aspects of this sector's workplace performance, including environment, task skills, task management skills, contingency management skills and job role environment skills.

Assessor requirements

Assessors must be able to clearly demonstrate current and relevant industry knowledge and experience to satisfy the mandatory regulatory standards as set out in the Standards for Registered Training Organisations (RTOs) 2015/AQTF mandatory requirements for assessors current at the time of assessment and any relevant licensing and certification requirements. This includes:

- vocational competencies at least to the level being delivered and assessed
- current industry skills directly relevant to the training and assessment being provided
- current knowledge and skills in vocational training and learning that informs their training and assessment
- formal relevant qualifications in training and assessment
- having knowledge of and/or experience using the latest techniques and processes
- possessing a high level of RII training product knowledge
- having an understanding and knowledge of legislations and regulations relevant to the industry and to employment and workplaces
- demonstrating the performance evidence, and knowledge evidence as outlined in this Unit of Competency, and
- the minimum years of current** work experience after competency has been obtained as specified below in an industry sector relevant to the outcomes of the unit.

It is also acceptable for the appropriately qualified assessor to work with an industry expert to conduct assessment together and for the industry expert to be involved in the assessment judgement. The industry expert must hold the relevant vocational competencies and have current industry skills directly relevant to the training and assessment being provided, and must work alongside a trainer and/or assessor to conduct the assessment. This means the industry subject matter expert should hold the unit being assessed (or an equivalent unit), and must also demonstrate skills and knowledge from the minimum years of current work experience after competency has been obtained as specified below, including time spent in roles related to the unit being assessed:

Industry sector	AQF indicator level***	Required assessor or industry subject matter expert experience
Drilling, Metalliferous Mining, Coal Mining, Extractive (Quarrying) and Civil Infrastructure	1	1 Year
	2	2 Years
Drilling, Coal Mining, Extractive (Quarrying), Metalliferous Mining and Civil Infrastructure	3-6	3 Years
Other sectors	Where this unit is being assessed outside of the Resources and Infrastructure Sectors, assessor and/or industry subject matter expert experience should be in-line with industry standards for the sector in which it is being assessed and, where no industry standard is specified, should comply with any relevant	

	regulation.

*Guidance on simulated environments has been stipulated in the RII implementation guide located on VETNet.

**Assessors can demonstrate current work experience through employment within industry in a role relevant to the outcomes of the unit; or, for external assessors this can be demonstrated through exposure to industry by conducting a minimum number of site assessments as determined by the relevant industry sector, across various locations.

*** While a Unit of Competency does not have an AQF level, where a unit is being delivered outside of a qualification the first numeric character in the unit code should be considered as the AQF indicator level for assessment purposes.

Links

Companion Volume implementation guides are found in VETNet -
<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=88a61002-9a21-4386-aaf8-69c76e675272>

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
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
1. Plan and prepare for 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

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

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>

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

- 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

Where personal safety or environmental damage are limiting factors, assessment may occur in a simulated work environment* provided it is realistic and sufficiently rigorous to cover all aspects of this sector's workplace performance, including environment, task skills, task management skills, contingency management skills and job role environment skills.

Assessor requirements

Assessors must be able to clearly demonstrate current and relevant industry knowledge and experience to satisfy the mandatory competency standards as set out in the Standards for Registered Training Organisations (RTOs) 2015/AQTF mandatory requirements for assessors current at the time of assessment and any relevant licensing and certification requirements. This includes:

- vocational competencies at least to the level being delivered and assessed
- current industry skills directly relevant to the training and assessment being provided
- current knowledge and skills in vocational training and learning that informs their training and assessment
- formal relevant qualifications in training and assessment
- having knowledge of and/or experience using the latest techniques and processes
- possessing a high level of RII training product knowledge
- having an understanding and knowledge of legislations and regulations relevant to the industry and to employment and workplaces
- demonstrating the performance evidence, and knowledge evidence as outlined in this Unit of Competency, and
- the minimum years of current** work experience after competency has been obtained as specified below in an industry sector relevant to the outcomes of the unit.

It is also acceptable for the appropriately qualified assessor to work with an industry expert to conduct assessment together and for the industry expert to be involved in the assessment judgement. The industry expert must hold the relevant vocational competencies and have current industry skills directly relevant to the training and assessment being provided and must work alongside a trainer and/or assessor to conduct the assessment. This means the industry subject matter expert should hold the unit being assessed (or an equivalent unit), and must also demonstrate skills and knowledge from the minimum years of current work experience after competency has been obtained as specified below, including time spent in roles related to the unit being assessed:

Industry sector	AQF indicator level***	Required assessor or industry subject matter expert experience
Drilling, Metalliferous Mining, Coal Mining, Extractive (Quarrying) and Civil Infrastructure	1	1 Year
	2	2 Years
Drilling, Coal Mining, Extractive (Quarrying), Metalliferous Mining and Civil Infrastructure	3-6	3 Years

Other sectors	Where this unit is being assessed outside of the resources and infrastructure sectors assessor and/or industry subject matter expert experience should be in-line with industry standards for the sector in which it is being assessed and where no industry standard is specified should comply with any relevant regulation.

*Guidance on simulated environments has been stipulated in the RII implementation guide located on VETNet.

**Assessors can demonstrate current work experience through employment within industry in a role relevant to the outcomes of the unit; or, for external assessors this can be demonstrated through exposure to industry by conducting a minimum number of site assessments as determined by the relevant industry sector, across various locations.

*** While a Unit of Competency does not have an AQF level, where a unit is being delivered outside of a qualification the first numeric character in the unit code should be considered as the AQF indicator level for assessment purposes.

Links

Companion Volume implementation guides are found in VETNet -
<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=88a61002-9a21-4386-aaf8-69c76e675272>

RIIMPO308F Conduct tracked dozer 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 conduct tracked dozer operations.

This unit applies to those working in site- based roles.

Licensing, legislative, regulatory and certification requirements that apply to this unit can vary between states, territories, and industry sectors, and must be sourced from state jurisdictions prior to applying this unit.

Unit Sector

Coal mining

Extractive

Metalliferous mining

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
1. Plan and prepare for tracked dozer operations	1.1 Access, interpret and apply tracked dozer operations documentation 1.2 Obtain, interpret, clarify and confirm work plan 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 complete the work activity

ELEMENT	PERFORMANCE CRITERIA
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
	1.6 Inspect and prepare work area in coordination with others 1.7 Obtain and interpret emergency procedures for tracked dozer, and be prepared for fires, accidents and emergencies 1.8 Coordinate and communicate planned activities with others at the site prior to commencement of work activity
2. Operate the tracked dozer 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 Determine equipment capacity and operate equipment within capacity 2.3 Identify faults or defects and rectify or report within scope of own responsibility and according to workplace procedures 2.4 Drive and operate dozer using techniques suited to equipment capabilities, site and work conditions, and according to workplace procedures 2.5 Monitor and manage equipment performance using indicators and alarms, and ensure efficiency of operation 2.6 Connect and tow/push equipment and plant within the equipment and connection capacity 2.7 Monitor hazards and risks during operations, and ensure safety of self, other personnel, plant and equipment 2.8 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 to 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.

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
RIIMPO308F Conduct tracked dozer operations (Release 1)	RIIMPO308E Conduct tracked dozer operations (Release 1)	Minor updates to reflect changes to operator maintenance activities	Equivalent unit

Links

Companion Volume implementation guides are found in VETNet -

<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=88a61002-9a21-4386-aaf8-69c76e675272>

Assessment Requirements for RIIMPO308F Conduct tracked dozer 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 tracked dozer 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 tracked dozer, and adjusting techniques to suit site conditions
- manoeuvring dozer
- using blade
- using ripper
- towing and pushing
- building and maintaining stockpiles
- parking and securing equipment

In the course of the above the candidate must also:

- locate and apply relevant documentation, policies and procedures
- select and wear personal protective equipment required for work activities
- carry out refuelling requirements and procedures
- drive and operate the equipment to site conditions
- apply safe work practices, identifying and reporting all potential hazards, risks and environmental issues
- work safely around high bench walls
- apply problem solving and troubleshooting techniques
- monitor and manage equipment performance using indicators and alarms
- identify common equipment faults
- carry out towing and pushing of equipment and plant
- select and use the required tools and equipment

- use a range of communication techniques and equipment essential to the safe completion of work activity, including hand, audible and other signals
- meet written and verbal reporting requirements and procedures associated with equipment operations

Knowledge Evidence

The candidate must be able to demonstrate knowledge to complete the tasks outlined in the elements and performance criteria of this unit. This includes:

Key policies and procedures, legislation and established requirements for tracked dozer operation without attachments, including those relating to:

- isolation requirements
- work health and safety, including signs of operator fatigue and how it should be managed
- dozer techniques, including towing and pushing
- operational maintenance and basic diagnostics
- personal protective equipment
- fires, accidents and emergencies
- recyclable materials
- housekeeping activities
- machine guidance systems

Key factors affecting work activities described in performance evidence above, including:

- equipment processes, technical capability and limitations
- interpretation of plans, reports, maps, specifications
- geological and technical data (basic)

Assessment Conditions

Mandatory conditions for assessment of this unit are stipulated below. The assessment must:

- include access to:
 - tracked dozer
 - personal protective equipment
- be conducted in a safe environment; and,
- be assessed in context of this sector's work environment; and,
- be assessed in compliance with relevant legislation/regulation and using policies, procedures, processes and operational manuals directly related to the industry sector for which it is being assessed; and,
- confirm consistent performance can be applied in a range of relevant workplace circumstances

Where personal safety or environmental damage are limiting factors, assessment may occur in a simulated work environment* provided it is realistic and sufficiently rigorous to cover all aspects of this sector's workplace performance, including environment, task skills, task management skills, contingency management skills and job role environment skills.

Assessor requirements

Assessors must be able to clearly demonstrate current and relevant industry knowledge and experience to satisfy the mandatory competency standards as set out in the Standards for Registered Training Organisations (RTOs) 2015/AQTF mandatory requirements for assessors current at the time of assessment and any relevant licensing and certification requirements. This includes:

- vocational competencies at least to the level being delivered and assessed
- current industry skills directly relevant to the training and assessment being provided
- current knowledge and skills in vocational training and learning that informs their training and assessment
- formal relevant qualifications in training and assessment
- having knowledge of and/or experience using the latest techniques and processes
- possessing a high level of RII training product knowledge
- having an understanding and knowledge of legislations and regulations relevant to the industry and to employment and workplaces
- demonstrating the performance evidence, and knowledge evidence as outlined in this Unit of Competency, and
- the minimum years of current** work experience after competency has been obtained as specified below in an industry sector relevant to the outcomes of the unit.

It is also acceptable for the appropriately qualified assessor to work with an industry expert to conduct assessment together and for the industry expert to be involved in the assessment judgement. The industry expert must hold the relevant vocational competencies and have current industry skills directly relevant to the training and assessment being provided and must work alongside a trainer and/or assessor to conduct the assessment. This means the industry subject matter expert should hold the unit being assessed (or an equivalent unit), and must also demonstrate skills and knowledge from the minimum years of current work experience after competency has been obtained as specified below, including time spent in roles related to the unit being assessed:

Industry sector	AQF indicator level***	Required assessor or industry subject matter expert experience
Drilling, Metalliferous Mining, Coal Mining, Extractive (Quarrying) and Civil Infrastructure	1	1 Year
	2	2 Years
Drilling, Coal Mining, Extractive (Quarrying), Metalliferous Mining and Civil Infrastructure	3-6	3 Years
Other sectors	Where this unit is being assessed outside of the resources and infrastructure sectors, assessor and/or industry subject matter expert experience should be in-line with industry standards for the sector in which it is being	

	assessed and, where no industry standard is specified, should comply with any relevant regulation.

*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>

RIIMPO309F Conduct wheeled dozer 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 conduct wheeled dozer operations.

This unit applies to those working in site- based roles.

Licensing, legislative, regulatory and certification requirements that apply to this unit can vary between states, territories, and industry sectors, and must be sourced from state jurisdictions prior to applying this unit.

Unit Sector

Civil infrastructure

Coal mining

Extractive

Metalliferous mining

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
1. Plan and prepare for wheeled dozer operations	1.1 Access, interpret and apply wheeled dozer operations documentation 1.2 Obtain, interpret, clarify and confirm work requirements 1.3 Identify hazards and environmental issues, assess the risks and implement control measures in line with workplace policies 1.4 Select and wear personal protective equipment required for work

ELEMENT	PERFORMANCE CRITERIA
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
	activities 1.5 Access, interpret and apply geological and survey data required to complete the work activity 1.6 Inspect and prepare work area in coordination with others in accordance with workplace requirements 1.7 Obtain and interpret emergency procedures for wheeled dozer, and be prepared for fires, accidents and emergencies 1.8 Coordinate and communicate planned activities with others at the site prior to commencement of work activity
2. Operate wheeled dozer 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 wheeled dozer using techniques suited to equipment capabilities, site and work conditions, and according to workplace procedures 2.4 Control speed and articulated steering of the wheeled dozer during tramming operations 2.5 Use dozer controls and functions effectively, including manoeuvre attachments to complete tasks 2.6 Carry out towing of equipment and plant safely within equipment and/or connection capabilities 2.7 Maintain safe grip, traction and productivity in varied operating conditions 2.8 Monitor hazards and risks during operations, and ensure safety of self, other personnel, plant and equipment 2.9 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 to 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.

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
RIIMPO309F Conduct wheeled dozer operations (Release 1)	RIIMPO309E Conduct wheeled dozer operations (Release 1)	Minor updates to reflect changes to operator maintenance activities	Equivalent unit

Links

Companion Volume implementation guides are found in VETNet -
<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=88a61002-9a21-4386-aaf8-69c76e675272>

Assessment Requirements for RIIMPO309F Conduct wheeled dozer 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 wheeled dozer 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 a tracked dozer, and adjusting techniques to suit site conditions
- completing a minimum of three of the following wheeled dozer operations:
 - manoeuvring dozer
 - blade application
 - ripper application
 - towing and pushing
 - pushing and preparing overburden
 - bench and pad preparation
 - trimming and cutting
 - building and maintaining stockpiles
 - supporting other vehicles
 - creation of windrows
 - dump establishment
 - road works
 - contours
 - batters
 - rehabilitation and drainage
 - final landform and the interpretation of associated survey pegs
 - sealing tailing dams

- parking and securing equipment

In the course of the above the candidate must also

- locate and apply relevant documentation, policies and procedures
- select and wear personal protective equipment required for work activities
- carry out vehicle refuelling requirements and procedures where applicable
- apply safe work practices, identifying and reporting all potential hazards, risks and environmental issues
- work safely around overhead power lines
- apply problem solving and troubleshooting techniques
- carry out towing and pushing of equipment and plant
- select and use the required tools and equipment
- monitor and manage equipment performance using indicators and alarms
- identify common equipment faults
- 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 wheeled dozer operation without attachments, including those relating to:

- isolation requirements
- work health and safety, including signs of operator fatigue and how it should be managed
- dozer operational procedures and techniques (including towing and pushing)
- operational, maintenance and basic diagnostics
- personal protective equipment
- fires, accident and emergencies
- recyclable materials
- housekeeping activities
- machine guidance systems

Key factors affecting work activities described in performance evidence above, including:

- equipment processes, technical capability and limitations
- plans, reports, maps, specifications
- geological and technical data
-

Assessment Conditions

Mandatory conditions for assessment of this unit are stipulated below. The assessment must:

- include access to:
 - wheeled dozer
 - personal protective equipment
- be conducted in a safe environment; and,
- be assessed in context of this sector's work environment; and,
- be assessed in compliance with relevant legislation/regulation and using policies, procedures, processes and operational manuals directly related to the industry sector for which it is being assessed; and,
- confirm consistent performance can be applied in a range of relevant workplace circumstances

Where personal safety or environmental damage are limiting factors, assessment may occur in a simulated work environment* provided it is realistic and sufficiently rigorous to cover all aspects of this sector's workplace performance, including environment, task skills, task management skills, contingency management skills and job role environment skills.

Assessor requirements

Assessors must be able to clearly demonstrate current and relevant industry knowledge and experience to satisfy the mandatory competency standards as set out in the Standards for Registered Training Organisations (RTOs) 2015/AQTF mandatory requirements for assessors current at the time of assessment and any relevant licensing and certification requirements. This includes:

- vocational competencies at least to the level being delivered and assessed
- current industry skills directly relevant to the training and assessment being provided
- current knowledge and skills in vocational training and learning that informs their training and assessment
- formal relevant qualifications in training and assessment
- having knowledge of and/or experience using the latest techniques and processes
- possessing a high level of RII training product knowledge
- having an understanding and knowledge of legislations and regulations relevant to the industry and to employment and workplaces
- demonstrating the performance evidence, and knowledge evidence as outlined in this Unit of Competency, and
- the minimum years of current** work experience after competency has been obtained as specified below in an industry sector relevant to the outcomes of the unit.

It is also acceptable for the appropriately qualified assessor to work with an industry expert to conduct assessment together and for the industry expert to be involved in the assessment judgement. The industry expert must hold the relevant vocational competencies and have current industry skills directly relevant to the training and assessment being provided and must work alongside a trainer and/or assessor to conduct the assessment. This means the industry subject matter expert should hold the unit being assessed (or an equivalent unit), and must also demonstrate skills and knowledge from the minimum years of current work experience after competency has been obtained as specified below, including time spent in roles related to the unit being assessed:

Industry sector	AQF indicator level***	Required assessor or industry subject matter expert experience
Drilling, Metalliferous Mining, Coal Mining, Extractive (Quarrying) and Civil Infrastructure	1	1 Year
	2	2 Years
Drilling, Coal Mining, Extractive (Quarrying), Metalliferous Mining and Civil Infrastructure	3-6	3 Years
Other sectors	Where this unit is being assessed outside of the resources and infrastructure sectors, assessor and/or industry subject matter expert experience should be in-line with industry standards for the sector in which it is being assessed and, where no industry standard is specified, should comply with any relevant regulation.	

*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>

RIIMPO318F Conduct civil construction skid steer loader operations

Modification History

Release	Comments
Release 1	This version first released with RII Resources and Infrastructure Industry Training Package Version 3.0.

Application

This unit describes the skills and knowledge required operate a skid steer loader to load, haul and distribute materials.

This unit applies to those working in site based roles.

Licensing, legislative, regulatory and certification requirements that apply to this unit can vary between states, territories, and industry sectors, and must be sourced from state jurisdictions prior to applying this unit.

This unit alone does not provide sufficient skill to independently load and unload equipment. To perform this activity safely, personnel must either complete or be assisted by someone who has completed RIIHAN308F Load and Unload Plant or equivalent.

Unit Sector

Civil infrastructure

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
1. Plan and prepare for skid steer loader operations	1.1 Access, interpret and apply skid steer loader operations documentation 1.2 Obtain, interpret, clarify and confirm work requirements 1.3 Identify hazards and environmental issues, assess the risks and implement control measures in line with workplace policies 1.4 Select and wear personal protective equipment required for work activities

ELEMENT	PERFORMANCE CRITERIA
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
	1.5 Obtain, identify and implement traffic signage requirements according to standard operating procedures and safe work practices 1.6 Select required skid steer equipment and confirm suitability for work activities 1.7 Obtain and interpret emergency procedures for skid steers, and be prepared for fires, accidents and emergencies 1.8 Coordinate and communicate planned activities with others at the site prior to commencement of work activity
2. Operate skid steer loader in line with established requirements	2.1 Carry out prestart and start-up checks in line with workplace procedures 2.2 Identify faults or defects and rectify or report within scope of own responsibility and according to workplace procedures 2.3 Drive and operate loader using techniques suited to equipment capabilities and site work conditions, and according to workplace procedures 2.4 Monitor hazards and risks during operations, and ensure safety of self, other personnel, plant and equipment 2.5 Monitor and manage equipment performance using indicators and alarms
3. Load, carry and place materials to complete work activity	3.1 Establish weight of load and ensure it is within safe operational limits of the machine 3.2 Position machinery to ensure stable and effective shift of materials according to work requirements 3.3 Shift materials safely and effectively, using hand audible and communication signals, in line with workplace procedures 3.4 Park up, shut down, secure and carry out post operational inspection of equipment in line with workplace procedures
4. Select, remove, fit and use attachments for a skid steer loader	4.1 Select appropriate attachment and required equipment for the task, and in accordance with safe working load requirements 4.2 Fit attachment in line with workplace procedures 4.3 Test attachment and ensure correct fitting and operation 4.4 Use attachment within design limits and in accordance with workplace procedures 4.5 Remove, clean and store attachments in designated location in line

ELEMENT	PERFORMANCE CRITERIA
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
	with workplace procedures
5. Prepare to relocate the skid steer loader	5.1 Prepare for relocation of skid steer loader 5.2 Move skid steer loader safely within and/or between work areas, observing relevant codes and traffic management requirements 5.3 Assist loading and unloading machine from float/trailer in accordance with safe work practices
6. Conduct housekeeping activities	6.1 Clear work area and dispose of or recycle materials according to workplace procedures 6.2 Manage and/or report hazards to maintain a safe working environment 6.3 Complete and file or distribute documentation in a manner that complies with workplace practices

Foundation Skills

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

Skill	Description
Reading	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
RIIMPO318F Conduct civil construction skid steer loader operations (Release	RIIMPO318E Conduct civil construction skid steer loader operations (Release	Minor updates to reflect changes to operator maintenance and relocation activities	Equivalent unit

1)	1)		

Links

Companion Volume implementation guides are found in VETNet -
<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=88a61002-9a21-4386-aaf8-69c76e675272>

Assessment Requirements for RIIMPO318F Conduct civil construction skid steer loader operations

Modification History

Release	Comments
Release 1	This version first released with RII Resources and Infrastructure Industry Training Package Version 3.0.

Performance Evidence

The candidate must demonstrate the ability to complete the tasks outlined in the elements and performance criteria of this unit.

The candidate must demonstrate completion of skid steer loader operations that safely, effectively and efficiently follows workplace procedures to carry out work activity on at least two occasions, and include:

- conducting prestart checks prior to commencing operations and shutdown procedures on completion of operations
- driving and operating the equipment to site conditions
- completion of operations to specification using at least two different material types (i.e. one different material per occasion) including:
 - stripping/spreading materials
 - backfilling
 - excavations
 - mixing materials
- selecting, fitting, testing, using and removing attachments on at least two occasions (i.e. one attachment per occasion), the attachment must be certified and approved in line with workplace procedures and could include, but not limited to, the following:
 - multipurpose bucket
 - forks
 - dozer blade
 - backhoe
 - auger
 - chain digger
 - power broom
 - profiler
 - tiller/mixer
 - rotary hoe

- hammer
- asphalt cutter/saw
- concrete cutter/saw
- rake
- assisting with loading and unloading skid steer loader from float/trailer
- safely parking and securing equipment

In the course of the above the candidate must also:

- locate and apply relevant documentation, policies and procedures
- select and wear personal protective equipment required for work activities
- apply safe work practices, identifying and reporting all potential hazards, risks and environmental issues
- apply problem solving and troubleshooting techniques when operating equipment
- monitor and manage equipment performance using indicators and alarms
- identify common equipment faults
- apply levelling techniques
- establish weight of load
- manage changes in the loads centre of gravity during transportation
- select and use the required tools and equipment
- apply methods of changing machine attachments
- use a range of communication techniques and equipment essential to the safe completion of work activity, including hand, audible and other signals
- meet written and verbal reporting requirements and procedures associated with equipment operations
- organise work activities to meet all task requirements
-

Knowledge Evidence

The candidate must be able to demonstrate knowledge to complete the tasks outlined in the elements and performance criteria of this unit. This includes:

Key policies and procedures, legislation and established requirements for skid steer loader operations, including those relating to:

- isolation requirements for skid steer loader
- fires, accidents and emergencies
- work health and safety, including signs of operator fatigue and how it should be managed
- traffic control responsibilities and authorities
- project quality requirements
- chain of responsibility for loading and unloading of equipment
- operational, maintenance and basic diagnostics
- personal protective equipment
- recyclable materials
- housekeeping activities

Key factors affecting work activities described in performance evidence above, including:

- equipment processes, technical capability and limitations
- drawings and sketches
- ground conditions
- materials characteristics, including density and viscosity

Key features associated with civil construction works, including:

- civil construction terminology
- basic principles of material technology and material compaction for civil works
- basic earthworks calculations
- civil construction activity sequences of road construction, earthworks and drainage

Assessment Conditions

Mandatory conditions for assessment of this unit are stipulated below. The assessment must:

- include access to:
 - a skid steer loader
 - materials to be shifted
 - personal protective equipment
- be conducted in a safe environment; and,
- be assessed in context of this sector's work environment; and,
- be assessed in compliance with relevant legislation/regulation and using policies, procedures, processes and operational manuals directly related to the industry sector for which it is being assessed; and,
- confirm consistent performance can be applied in a range of relevant workplace circumstances

Where personal safety or environmental damage are limiting factors, assessment may occur in a simulated work environment* provided it is realistic and sufficiently rigorous to cover all aspects of this sector's workplace performance, including environment, task skills, task management skills, contingency management skills and job role environment skills.

Assessor requirements

Assessors must be able to clearly demonstrate current and relevant industry knowledge and experience to satisfy the mandatory competency standards as set out in the Standards for Registered Training Organisations (RTOs) 2015/AQTF mandatory requirements for assessors current at the time of assessment and any relevant licensing and certification requirements. This includes:

- vocational competencies at least to the level being delivered and assessed
- current industry skills directly relevant to the training and assessment being provided
- current knowledge and skills in vocational training and learning that informs their training and assessment
- formal relevant qualifications in training and assessment
- having knowledge of and/or experience using the latest techniques and processes

- possessing a high level of RII training product knowledge
- having an understanding and knowledge of legislations and regulations relevant to the industry and to employment and workplaces
- demonstrating the performance evidence, and knowledge evidence as outlined in this Unit of Competency, and
- the minimum years of current** work experience after competency has been obtained as specified below in an industry sector relevant to the outcomes of the unit.

It is also acceptable for the appropriately qualified assessor to work with an industry expert to conduct assessment together and for the industry expert to be involved in the assessment judgement. The industry expert must hold the relevant vocational competencies and have current industry skills directly relevant to the training and assessment being provided and must work alongside a trainer and/or assessor to conduct the assessment. This means the industry subject matter expert should hold the unit being assessed (or an equivalent unit), and must also demonstrate skills and knowledge from the minimum years of current work experience after competency has been obtained as specified below, including time spent in roles related to the unit being assessed:

Industry sector	AQF indicator level***	Required assessor or industry subject matter expert experience
Drilling, Metalliferous Mining, Coal Mining, Extractive (Quarrying) and Civil Infrastructure	1	1 Year
	2	2 Years
Drilling, Coal Mining, Extractive (Quarrying), Metalliferous Mining and Civil Infrastructure	3-6	3 Years
Other sectors	Where this unit is being assessed outside of the resources and infrastructure sectors, assessor and/or industry subject matter expert experience should be in-line with industry standards for the sector in which it is being assessed and, where no industry standard is specified, should comply with any relevant regulation.	

*Guidance on simulated environments has been stipulated in the RII implementation guide located on VETNet.

**Assessors can demonstrate current work experience through employment within industry in a role relevant to the outcomes of the unit; or, for external assessors this can be demonstrated through exposure to industry by conducting a minimum number of site assessments as determined by the relevant industry sector, across various locations.

*** While a Unit of Competency does not have an AQF level, where a unit is being delivered outside of a qualification the first numeric character in the unit code should be considered as the AQF indicator level for assessment purposes.

Links

Companion Volume implementation guides are found in VETNet -
<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=88a61002-9a21-4386-aaf8-69c76e675272>

RIIMPO319E Conduct backhoe/loader operations

Modification History

Release	Comments
Release 1	This version first released with RII Resources and Infrastructure Industry Training Package Version 3.0.

Application

This unit describes the skills and knowledge required to operate a backhoe/loader to load, distribute and place materials.

This unit applies to those working in site based roles.

Licensing, legislative, regulatory and certification requirements that apply to this unit can vary between states, territories, and industry sectors, and must be sourced from state jurisdictions prior to applying this unit.

Unit Sector

Civil infrastructure

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
1. Plan and prepare for backhoe/loader operations	1.1 Access, interpret and apply backhoe/loader operations documentation 1.2 Obtain, interpret, clarify and confirm work instructions 1.3 Identify hazards and environmental issues, assess the risks and implement control measures in line with workplace policies 1.4 Select and wear personal protective equipment required for work activities 1.5 Identify, obtain and implement signage traffic management requirements according to standard operating procedures and safe work practices 1.6 Select required backhoe/loader equipment and confirm suitability

ELEMENT	PERFORMANCE CRITERIA
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
	for work activities 1.7 Obtain and interpret emergency procedures for backhoe/loaders, and be prepared for fires, accidents and emergencies 1.8 Coordinate and communicate planned activities with others at the site prior to commencement of work activity
2. Operate backhoe/loader in line with established requirements	2.1 Carry out prestart and start-up checks in line with workplace procedures 2.2 Identify faults or defects and rectify or report within scope of own responsibility and according to workplace procedures 2.3 Drive and operate machine using techniques suited to equipment capabilities, site and work conditions, and according to workplace procedures 2.4 Monitor hazards and risks during operations , and ensure safety of self, other personnel, plant and equipment 2.5 Monitor and manage equipment performance using indicators and alarms
3. Load, carry and place materials to complete work activity	3.1 Establish weight of load and ensure it is within safe operational limits of the machine 3.2 Use lifting gear within safe working load requirements and in line with workplace procedures 3.3 Position and locate machinery to ensure stable and effective shift materials according to work requirements 3.4 Shift materials safely and effectively, using hand, audible and communication signal, in line with workplace procedures 3.5 Park up, shut down, secure and carry out post operational inspection of equipment in line with workplace procedures
4. Select, remove, fit and attachments for a backhoe/loader	4.1 Select attachment for the task and fit attachment in line with workplace procedures 4.2 Test attachment and ensure correct fitting and operation 4.3 Use attachment within design limits and in accordance with workplace procedures 4.4 Remove, clean and store attachments in designated location in line with workplace procedures
5. Relocate the	5.1 Prepare backhoe/loader for relocation

ELEMENT	PERFORMANCE CRITERIA
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
backhoe/ loader	5.2 Move backhoe/loader safely between worksites, observing relevant codes and traffic management requirements
6. Conduct housekeeping activities	6.1 Clear work area and dispose of or recycle materials according to workplace procedures 6.2 Manage and/or report hazards to maintain a safe working environment 6.3 Complete and file or distribute documentation in a manner that complies with workplace practices

Foundation Skills

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

Skill	Description
Reading	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
RIIMPO319E Conduct backhoe/loader operations (Release 1)	RIIMPO319D Conduct backhoe/loader operations (Release 3)	Minor updates to reflect changes to operator maintenance activities and assessment for attachments	Equivalent unit

Links

Companion Volume implementation guides are found in VETNet -

<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=88a61002-9a21-4386-aaf8-69c76e675272>

Assessment Requirements for RIIMPO319E Conduct backhoe/loader operations

Modification History

Release	Comments
Release 1	This version first released with RII Resources and Infrastructure Industry Training Package Version 3.0.

Performance Evidence

The candidate must demonstrate the ability to complete the tasks outlined in the elements and performance criteria of this unit.

The candidate must demonstrate completion of loader/backhoe operations that safely, effectively and efficiently follows workplace procedures to carry out work activity on at least two occasions, and include:

- conducting prestart checks prior to commencing operations and shutdown procedures on completion of operations
- driving and operating the equipment, and adjusting techniques to suit site conditions
- completion of operations to specification using at least two different material types (i.e. one different material type per occasion) including:
 - mixing materials
 - stripping/spreading materials
 - trench excavation
 - backfilling
 - lifting and carry materials
 - loading dump trucks, wagons, hoppers, chutes, and cutting/boxing
- selecting, fitting, testing, using and removing at least two attachments (i.e. one attachment per occasion), which must be certified and approved in line with workplace procedures and could include, but are not limited to, the following:
 - extending devices
 - tilt bucket
 - buckets
 - compaction wheel
 - ripper
 - plate compactor
 - rock breaker
 - auger

- broom
- mower/slasher
- forklift
- 4 in 1 bucket and free/rock grab
- parking and securing of equipment

In the course of the above work the candidate must also:

- locate and apply relevant documentation, policies and procedures
- select and wear personal protective equipment required for work activities
- carry out vehicle refuelling requirements and procedures where applicable
- apply safe work practices, identifying and reporting all potential hazards, risks and environmental issues
- apply problem solving and troubleshooting techniques when operating equipment
- monitor and manage equipment performance using indicators and alarms
- identify common equipment faults
- apply levelling techniques
- establish weight of load
- manage changes in the loads centre of gravity during transportation
- select and use the required tools and equipment
- work safely around other machines and personnel
- apply methods of changing machine attachments
- use a range of communication techniques and equipment essential to the safe completion of work activity, including hand, audible and other signals
- meet written and verbal reporting requirements and procedures associated with equipment operations
- organise work activities to meet all task requirements
-

Knowledge Evidence

The candidate must be able to demonstrate knowledge to complete the tasks outlined in the elements and performance criteria of this unit. This includes:

Key policies and procedures, legislation and established requirements for backhoe/loader operations, including those relating to:

- isolation requirements
- fires, accidents and emergencies
- work health and safety, including signs of operator fatigue and how it should be managed
- site isolation and traffic control responsibilities and authorities
- project quality requirements
- operational, maintenance and basic diagnostics
- personal protective equipment
- recyclable materials
- housekeeping activities

Key factors affecting work activities described in performance evidence above, including:

- equipment processes, technical capability and limitations
- drawings and sketches
- ground conditions
- materials characteristics, including density and viscosity

Key features associated with civil construction works, including:

- civil construction terminology
- basic principles of material technology and material compaction for civil works
- basic earthworks calculations
- civil construction activity sequences of road construction, earthworks and drainage

Assessment Conditions

Mandatory conditions for assessment of this unit are stipulated below. The assessment must:

- include access to:
 - backhoe/loader
 - personal protective equipment
- be conducted in a safe environment; and,
- be assessed in context of this sector's work environment; and,
- be assessed in compliance with relevant legislation/regulation and using policies, procedures, processes and operational manuals directly related to the industry sector for which it is being assessed; and,
- confirm consistent performance can be applied in a range of relevant workplace circumstances

Where personal safety or environmental damage are limiting factors, assessment may occur in a simulated work environment* provided it is realistic and sufficiently rigorous to cover all aspects of this sector's workplace performance, including environment, task skills, task management skills, contingency management skills and job role environment skills.

Assessor requirements

Assessors must be able to clearly demonstrate current and relevant industry knowledge and experience to satisfy the mandatory competency standards as set out in the Standards for Registered Training Organisations (RTOs) 2015/AQTF mandatory requirements for assessors current at the time of assessment and any relevant licensing and certification requirements. This includes:

- vocational competencies at least to the level being delivered and assessed
- current industry skills directly relevant to the training and assessment being provided
- current knowledge and skills in vocational training and learning that informs their training and assessment
- formal relevant qualifications in training and assessment
- having knowledge of and/or experience using the latest techniques and processes
- possessing a high level of RII training product knowledge

- having an understanding and knowledge of legislations and regulations relevant to the industry and to employment and workplaces
- demonstrating the performance evidence, and knowledge evidence as outlined in this Unit of Competency, and
- the minimum years of current** work experience after competency has been obtained as specified below in an industry sector relevant to the outcomes of the unit.

It is also acceptable for the appropriately qualified assessor to work with an industry expert to conduct assessment together and for the industry expert to be involved in the assessment judgement. The industry expert must hold the relevant vocational competencies and have current industry skills directly relevant to the training and assessment being provided and must work alongside a trainer and/or assessor to conduct the assessment. This means the industry subject matter expert should hold the unit being assessed (or an equivalent unit), and must also demonstrate skills and knowledge from the minimum years of current work experience after competency has been obtained as specified below, including time spent in roles related to the unit being assessed:

Industry sector	AQF indicator level***	Required assessor or industry subject matter expert experience
Drilling, Metalliferous Mining, Coal Mining, Extractive (Quarrying) and Civil Infrastructure	1	1 Year
	2	2 Years
Drilling, Coal Mining, Extractive (Quarrying), Metalliferous Mining and Civil Infrastructure	3-6	3 Years
Other sectors	Where this unit is being assessed outside of the resources and infrastructure sectors assessor and/or industry subject matter expert experience should be in-line with industry standards for the sector in which it is being assessed and where no industry standard is specified should comply with any relevant regulation.	

*Guidance on simulated environments has been stipulated in the RII implementation guide located on VETNet.

**Assessors can demonstrate current work experience through employment within industry in a role relevant to the outcomes of the unit; or, for external assessors this can be demonstrated through exposure to industry by conducting a minimum number of site assessments as determined by the relevant industry sector, across various locations.

*** While a Unit of Competency does not have an AQF level, where a unit is being delivered outside of a qualification the first numeric character in the unit code should be considered as the AQF indicator level for assessment purposes.

Links

Companion Volume implementation guides are found in VETNet -

<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=88a61002-9a21-4386-aaf8-69c76e675272>

RIIMPO320F Conduct civil construction excavator operations

Modification History

Release	Comments
Release 1	This version first released with RII Resources and Infrastructure Industry Training Package Version 3.0.
Release 2	Editorial corrections.
Release 3	Editorial corrections to performance evidence.

Application

This unit describes the skills and knowledge required to operate excavator operations to lift carry and place materials.

This unit applies to those working in site based roles.

Licensing, legislative, regulatory and certification requirements that apply to this unit can vary between states, territories, and industry sectors, and must be sourced from state jurisdictions prior to applying this unit.

This unit alone does not provide sufficient skill to independently load and unload equipment. To perform this activity safely, personnel must either complete or be assisted by someone who has completed RIIHAN308F Load and Unload Plant or equivalent.

Unit Sector

Civil infrastructure

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
1. Plan and prepare for excavator operations	1.1 Access, interpret and apply excavator operations documentation 1.2 Obtain, interpret, clarify and confirm work requirements 1.3 Identify hazards and environmental issues, assess the risks and implement control measures in line with workplace policies 1.4 Select and wear personal protective equipment required for work

ELEMENT	PERFORMANCE CRITERIA
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
	activities 1.5 Obtain, identify and implement traffic management signage requirements according to standard operating procedures and safe work practices 1.6 Select required excavator equipment and/or attachments and confirm suitability for work activities 1.7 Obtain and interpret emergency procedures for excavators, and be prepared for fires, accidents and emergencies 1.8 Coordinate and communicate planned activities with others at the site prior to commencement of work activity
2. Operate excavator in line with established requirements	2.1 Carry out prestart and start-up checks in line with workplace procedures 2.2 Identify faults or defects and rectify or report within scope of own responsibility and according to workplace procedures 2.3 Drive and operate excavator using techniques suited to equipment capabilities, site and work conditions, and according to workplace procedures 2.4 Monitor hazards and risks during operations, and ensure safety of self, other personnel, plant and equipment 2.5 Monitor and manage equipment performance using indicators and alarms in line with manufacturers' specifications
3. Lift, carry and place materials to complete work activity	3.1 Establish weight of load and ensure it is within safe operational limits of the machine 3.2 Use lifting gear within safe working load requirements and in line with workplace requirements 3.3 Position machinery and ensure stable and effective shift of materials according to work requirements 3.4 Shift load safely and effectively, using hand, audible and communication signal, in line with workplace procedures 3.5 Park up, shut down, secure and carry out post operational inspection of equipment in line with workplace procedures
4. Select, remove, fit and use attachments for a excavator	4.1 Select attachment for the task 4.2 Fit attachment in line with workplace procedures 4.3 Test attachment and ensure correct fitting and operation

ELEMENT	PERFORMANCE CRITERIA
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
	4.4 Use attachment within design limits and in accordance with workplace procedures 4.5 Remove, clean and store attachments in designated location in line with workplace procedures
5. Prepare to relocate the excavator	5.1 Prepare excavator for relocation 5.2 Move excavator safely within and/or between work areas, observing relevant codes and traffic management requirements 5.3 Assist loading and unloading machine from float/trailer in line with workplace procedures
6. Conduct housekeeping activities	6.1 Clear work area and dispose of or recycle materials according to workplace procedures 6.2 Manage and/or report hazards to maintain a safe working environment 6.3 Complete and file or distribute documentation in a manner that complies with workplace practices

Foundation Skills

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

Skill	Description
Reading	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
RIIMPO320F Conduct civil construction excavator operations (Release 2)	RIIMPO320F Conduct civil construction excavator operations (Release 1)	Editorial corrections.	Equivalent unit

Links

Companion Volume implementation guides are found in VETNet -
<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=88a61002-9a21-4386-aaf8-69c76e675272>

Assessment Requirements for RIIMPO320F Conduct civil construction excavator operations

Modification History

Release	Comments
Release 1	This version first released with RII Resources and Infrastructure Industry Training Package Version 3.0.
Release 2	Editorial corrections.
Release 3	Editorial corrections to performance evidence.

Performance Evidence

The candidate must demonstrate the ability to complete the tasks outlined in the elements and performance criteria of this unit.

The candidate must demonstrate completion of excavator operations that safely, effectively and efficiently follows workplace procedures to carry out work activity on at least two occasions, and include:

- conducting prestart checks prior to commencing operations and shutdown procedures on completion of operations
- driving and operating the equipment, and adjusting techniques to site conditions
- completing operations to specification using at least two different material types and activities including:
 - loading, cutting/boxing
 - stripping/spreading
 - lifting and carry materials
 - bulk excavation
 - mixing/backfilling
 - trench excavation
 - stockpiling
 - battering
 - benching
 - site clean up
- selecting, fitting, testing, using and removing at least three attachments, the attachment must be certified and approved in line with workplace procedures and could include, but not limited to, the following:
 - tilt bucket

- buckets
- lifting device
- vibrating compaction wheel
- ripper/tyne
- compaction plate
- compaction wheel
- rock breaker
- auger
- ground engaging tools
- assisting with loading and unloading plant type from float/trailer
- parking and securing equipment

In the course of the above work the candidate must also:

- locate and apply relevant documentation, policies and procedures
- select and wear personal protective equipment required for work activities
- carry out vehicle refuelling requirements and procedures where applicable
- apply safe work practices, identifying and reporting all potential hazards, risks and environmental issues
- apply problem solving and troubleshooting techniques when operating equipment
- monitor and manage equipment performance using indicators and alarms
- identify common equipment faults
- apply levelling techniques
- select and use the required tools and equipment
- apply methods of changing machine attachments
- establish weight of load
- manage changes in the loads centre of gravity during transportation
- use a range of communication techniques and equipment essential to the safe completion of work activity, including hand, audible and other signals
- meet written and verbal reporting requirements and procedures associated with equipment operations
- organise work activities to meet all task requirements.

Knowledge Evidence

The candidate must be able to demonstrate knowledge to complete the tasks outlined in the elements and performance criteria of this unit. This includes:

Key policies and procedures, legislation and established requirements for excavator operations, including those relating to:

- isolation requirements
- fires, accidents and emergencies
- work health and safety, including signs of operator fatigue and how it should be managed
- site isolation and traffic control responsibilities and authorities

- project quality requirements
- chain of responsibility for loading and unloading of equipment
- operational, maintenance and basic diagnostics
- personal protective equipment
- recyclable materials
- housekeeping activities

Key factors affecting work activities described in performance evidence above, including:

- equipment processes, technical capability and limitations
- drawings and sketches
- ground conditions
- materials characteristics, including density and viscosity

Key features associated with civil construction works, including:

- civil construction terminology
- basic principles of material technology and material compaction for civil works
- basic earthworks calculations
- civil construction activity sequences of road construction, earthworks and drainage.

Assessment Conditions

Mandatory conditions for assessment of this unit are stipulated below. The assessment must:

- include access to:
 - excavator
 - attachments
 - personal protective equipment
- be conducted in a safe environment; and,
- be assessed in context of this sector's work environment; and,
- be assessed in compliance with relevant legislation/regulation and using policies, procedures, processes and operational manuals directly related to the industry sector for which it is being assessed; and,
- confirm consistent performance can be applied in a range of relevant workplace circumstances

Where personal safety or environmental damage are limiting factors, assessment may occur in a simulated work environment* provided it is realistic and sufficiently rigorous to cover all aspects of this sector's workplace performance, including environment, task skills, task management skills, contingency management skills and job role environment skills.

Assessor Requirements

Assessors must be able to clearly demonstrate current and relevant industry knowledge and experience to satisfy the mandatory competency standards as set out in the Standards for Registered Training Organisations (RTOs) 2015/AQTF mandatory requirements for assessors current at the time of assessment and any relevant licensing and certification requirements. This includes:

- vocational competencies at least to the level being delivered and assessed
- current industry skills directly relevant to the training and assessment being provided
- current knowledge and skills in vocational training and learning that informs their training and assessment
- formal relevant qualifications in training and assessment
- having knowledge of and/or experience using the latest techniques and processes
- possessing a high level of RII training product knowledge
- having an understanding and knowledge of legislations and regulations relevant to the industry and to employment and workplaces
- demonstrating the performance evidence, and knowledge evidence as outlined in this Unit of Competency, and
- the minimum years of current** work experience after competency has been obtained as specified below in an industry sector relevant to the outcomes of the unit.

It is also acceptable for the appropriately qualified assessor to work with an industry expert to conduct assessment together and for the industry expert to be involved in the assessment judgement. The industry expert must hold the relevant vocational competencies and have current industry skills directly relevant to the training and assessment being provided and must work alongside a trainer and/or assessor to conduct the assessment. This means the industry subject matter expert should hold the unit being assessed (or an equivalent unit), and must also demonstrate skills and knowledge from the minimum years of current work experience after competency has been obtained as specified below, including time spent in roles related to the unit being assessed:

Industry sector	AQF indicator level***	Required assessor or industry subject matter expert experience
Drilling, Metalliferous Mining, Coal Mining, Extractive (Quarrying) and Civil Infrastructure	1	1 Year
	2	2 Years
Drilling, Coal Mining, Extractive (Quarrying), Metalliferous Mining and Civil Infrastructure	3-6	3 Years
Other sectors	Where this unit is being assessed outside of the resources and infrastructure sectors, assessor and/or industry subject matter expert experience should be in-line with industry standards for the sector in which it is being	

	assessed and, where no industry standard is specified, should comply with any relevant regulation.

*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>

RIIRIS301E Apply risk management processes

Modification History

This unit replaces RIIRIS301D Apply risk management processes. Significant endorseable amendments have been made to Elements, Performance Criteria, Foundation Skills, Performance Evidence and Knowledge Evidence to better reflect current industry practices and clarify training outcomes.

Application

This unit describes the skills and knowledge required to apply risk management processes in the mining, drilling and civil infrastructure industry.

This unit applies to individuals who contribute to applying risk management processes as part of their responsibilities. This could be an employer, line manager, supervisor, safety representative or employee. This unit applies to those who carry out or assist in carrying out risk assessment in the workplace.

Licensing, legislative and certification requirements that apply to this unit can vary between states, territories and industry sectors. Users must check requirements with relevant body before applying the unit.

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
1. Plan and prepare for risk management	1.1 Access, interpret and apply compliance documentation relevant to the application of risk management processes 1.2 Inspect and analyse work area conditions regularly and systematically to identify risks and potential hazards 1.3 Access, interpret and apply existing procedures and any other documented measures to control identified hazards 1.4 Identify risks and hazards not addressed by workplace policies, procedures, processes and systems 1.5 Communicate potential hazards to relevant duty holders in accordance with workplace policies and procedures
2. Identify and assess	2.1 Consider and determine the likelihood of an incident

ELEMENT	PERFORMANCE CRITERIA
unacceptable risk	in accordance with workplace risk management processes 2.2 Evaluate and determine the consequences of the incident 2.3 Consider and determine the risk level associated with the incident 2.4 Identify or source the criteria for determining the acceptability or unacceptability of the risk 2.5 Evaluate the risk and identify 'unacceptable risk' status
3. Identify and recommend risk controls	3.1 Identify a range of risk controls which may eliminate or minimise the hazards 3.2 Conduct analysis of feasible risk controls, including the identification of resource requirements 3.3 Select the most appropriate risk controls for dealing with the hazard using the Hierarchy of Control
4. Contribute to the implementation of risk controls	4.1 Document risk management plan for selected risk controls, including resource requirements 4.2 Obtain authorisation and required resources from relevant individuals and/or parties for selected risk controls 4.3 Document, verify and review risk controls for the activity 4.4 Apply workplace procedures and any other applicable measures to control recognised hazards and associated risks 4.5 Communicate information on the controls and their implementation in accordance with workplace policies and procedures
5. Review risk management documentation	5.1 Monitor and review risk management documentation 5.2 Seek authority and approval, in writing, to amend risk management documentation 5.3 Seek authority and approval to action amendments to risk management documentation

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	Identifies and interprets information from workplace procedures, policies, documentation and systems
Writing	Produces and completes workplace reports, including risk management matrices, using appropriate vocabulary, grammatical structures and conventions
Oral communication	- Presents information and provides assistance using industry specific vocabulary - Uses listening and questioning to clarify and confirm understanding

Unit Mapping Information

Supersedes and is equivalent to RIIRIS301D Apply risk management processes.

Links

Companion Volume implementation guides are found in VETNet -

<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=88a61002-9a21-4386-aaf8-69c76e675272>

Assessment Requirements for RIIRIS301E Apply risk management processes

Modification History

This unit replaces RIIRIS301D Apply risk management processes. Significant endorseable amendments have been made to Elements, Performance Criteria, Foundation Skills, Performance Evidence and Knowledge Evidence to better reflect current industry practices and clarify training outcomes.

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 application of risk management processes that safely, effectively and efficiently follows workplace procedures to carry out work activity on at least two occasions, and include:

- applying planning and organising skills to the risk management processes
- identifying or sourcing criteria to determine unacceptable risk
- identifying and recognising type and scope of hazards and their impact
- assessing and determining the consequence, likelihood and level of potential risk
- identifying unacceptable risk using the acceptable/unacceptable criteria
- assessing options for appropriate controls and implementing accordingly
- identifying and obtaining required resources
- preparing and maintaining written records and report requirements
- reviewing risk management documentation
- identifying and recommending controls
- contributing to the implementation of controls.

In the course of the above work the candidate must also:

- locate and apply relevant documentation, policies and procedures
- apply relevant operational information
- apply industry terminology
- demonstrate the ability to engage with workers reporting to you, co-workers, and supervisors in the risk management processes
- communicate clearly and concisely with others to receive and clarify work instructions and to coordinate work activities
- meet written and verbal reporting requirements and procedures associated with risk management processes.

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:

- commonwealth and state or territory Acts, regulations, codes or practice standards, guidance material and other relevant publications
- internal and external sources of work related health and safety information and data and how to access them
- work related health and safety legislative requirements relating to:
 - communication, consultation and participation
 - recordkeeping
 - specific hazard identification and risk assessment and control methods
- concept of hazards, risks and risk factors
- topics or subject areas which are targets for assessment and treatment
- site risk management systems and their application
- site work related health and safety management systems and their application
- Hierarchy of Control and its application
- conventions and requirements for written communications including report writing
- problem solving techniques.

Assessment Conditions

Mandatory conditions for assessment of this unit are stipulated below. The assessment must:

- include access to risk management policies, procedures and systems
- be conducted in a safe environment; and,
- be assessed in the context of this sector's work environment; and,
- be assessed in compliance with relevant legislation/regulation and using policies, procedures and processes directly related to the industry sector for which it is being assessed; and,
- confirm consistent performance can be applied in a range of relevant workplace circumstances.

Where personal safety or environmental damage are limiting factors, assessment may occur in a simulated work environment* provided it is realistic and sufficiently rigorous to cover all aspects of this sector's workplace performance, including environment, task skills, task management skills, contingency management skills and job role environment skills.

Assessor Requirements

Assessors must be able to clearly demonstrate current and relevant industry knowledge and experience to satisfy the mandatory regulatory standards as set out in the Standards for Registered Training Organisations (RTOs) 2015/Australian Quality Training Framework mandatory requirements for assessors current at the time of assessment and any relevant licensing and certification requirements. This includes:

- vocational competencies at least to the level being delivered and assessed

- current industry skills directly relevant to the training and assessment being provided
- current knowledge and skills in vocational training and learning that informs their training and assessment
- formal relevant qualifications in training and assessment
- having knowledge of and/or experience using the latest techniques and processes
- possessing the required level of RII training product knowledge
- having an understanding and knowledge of legislation and regulations relevant to the industry and to employment and workplaces
- demonstrating the performance evidence, and knowledge evidence outlined in this unit of competency, and
- the minimum years of current** work experience after competency has been obtained as specified below in an industry sector relevant to the outcomes of the unit.

It is also acceptable for the appropriately qualified assessor to work with an industry expert to conduct assessment together and for the industry expert to be involved in the assessment judgement. The industry expert must have current industry skills directly relevant to the training and assessment being provided. This means the industry subject matter expert must demonstrate skills and knowledge from the minimum years of current work experience after competency has been obtained as specified below, including time spent in roles related to the unit being assessed:

Industry sector	AQF indicator level***	Required assessor or industry subject matter expert experience
Drilling, Metalliferous Mining, Coal Mining, Extractive (Quarrying) and Civil Infrastructure	1	1 year
	2	2 years
Drilling, Coal Mining, Extractive (Quarrying), Metalliferous Mining and Civil Infrastructure	3-6	3 years
Other sectors	Where this unit is being assessed outside of the resources and infrastructure sectors assessor and/or industry subject matter expert experience should be in-line with industry standards for the sector in which it is being assessed and where no industry standard is specified should comply with any relevant regulation.	

*Guidance on simulated environments has been stipulated in the RII Companion Volume Implementation Guide located on VETNet.

**Assessors can demonstrate current work experience through employment within industry in a role relevant to the outcomes of the unit; or, for external assessors this can be demonstrated through exposure to industry by conducting a minimum number of site assessments as determined by the relevant industry sector, across various locations.

*** While a unit of competency does not have an AQF level, where a unit is being delivered outside of a qualification the first numeric character in the unit code should be considered as the AQF indicator level for assessment purposes.

Links

Companion Volume implementation guides are found in VETNet -

<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=88a61002-9a21-4386-aaf8-69c76e675272>

RIISAM201E Handle resources and infrastructure materials and safely dispose of nontoxic materials

Modification History

Release	Comments
Release 1	This version first released with RII Resources and Infrastructure Industry Training Package Version 5.0.

Application

This unit describes the skills and knowledge required to handle resources and infrastructure materials and safely dispose of nontoxic materials in the resources and infrastructure industries.

It applies to those working in operational roles. They generally work under supervision to undertake a prescribed range of functions involving known routines and procedures and take responsibility for the quality of own work outcomes.

Licensing, legislative and certification requirements may apply to this unit and can vary between states, territories and industry sectors. Users must check requirements with relevant body before applying the unit.

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
1. Plan and prepare to handle resources and infrastructure materials and safely dispose of nontoxic materials	1.1 Obtain, interpret and confirm work requirements 1.2 Access, interpret and apply documentation and procedures 1.3 Identify potential risks, hazards and environmental issues, and implement control measures according to workplace procedures 1.4 Select and wear personal protective equipment required for work activities 1.5 Select tools and equipment for the work activity 1.6 Obtain and interpret emergency procedures, and be prepared for emergency situations
2. Handle and remove waste	2.1 Comply with safety data sheets and regulatory requirements 2.2 Identify hazardous materials for separate handling 2.3 Remove materials and non-toxic according to organisational

ELEMENT	PERFORMANCE CRITERIA
	procedures for the removal of non-toxic materials 2.4 Apply dust suppression procedures
3. Conduct housekeeping activities	3.1 Clear work area and dispose of materials 3.2 Clean, maintain and inspect the serviceability of the equipment, and address and report any issues 3.3 Complete written records and reports

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	Identifies and interprets information from workplace procedures, documentation and regulations
Writing	Produces and completes written documents required for workplace procedures
Self-management	Monitors and minimises own exposure to worksite risks and hazards during activities

Unit Mapping Information

Supersedes and is equivalent to RIISAM201D Handle resources and infrastructure materials and safely dispose of nontoxic materials.

Links

Companion Volume Implementation Guides is found on VETNet -
<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=88a61002-9a21-4386-aaf8-69c76e675272>

Assessment Requirements for RIISAM201E Handle resources and infrastructure materials and safely dispose of nontoxic materials

Modification History

Release	Comments
Release 1	This version first released with RII Resources and Infrastructure Industry Training Package Version 5.0.

Performance Evidence

The candidate must demonstrate the ability to complete the tasks outlined in the elements, performance criteria and foundation skills of this unit, including evidence of the ability to:

- handle resources and infrastructure materials and safely disposing of nontoxic materials on at least two occasions, including:
 - complying with safety data sheets and requirements of regulatory authorities
 - identifying hazardous materials for separate handling
 - following procedures for the removal of non-toxic materials
 - applying dust suppression procedures
 - clearing work area and disposing of or recycling materials.

During the above, the candidate must:

- locate and apply relevant documentation, policies and procedures and confirm that the work activity is compliant
- implement the requirements, procedures and techniques for handling resources and infrastructure materials and safely disposing of nontoxic materials
- work with others to undertake the handling resources and infrastructure materials and safely disposing of nontoxic materials
- communicate with others to receive and clarify work instructions and to determine coordination requirements prior to commencing and during work activities.

Knowledge Evidence

The candidate must be able to demonstrate knowledge to complete the tasks outlined in the elements, performance criteria and foundation skills of this unit, including knowledge of:

- key policies, procedures and documentation required to handle resources and infrastructure materials and safely dispose of nontoxic materials, including those related to:
 - work health and safety procedures

- environmental issues
- site isolation procedures
- traffic control responsibilities
- waste material identification
- records and reports
- principles and techniques for packing and securing materials
- systems and equipment or materials for the short term protection of stacked or stored materials
- methods of dust suppression
- key industry and worksite terminology.

Assessment Conditions

Mandatory conditions for assessment of this unit are stipulated below. The assessment must:

- include access to:
 - personal and protective equipment
 - equipment required to handle resources and infrastructure materials and safely dispose of nontoxic materials
 - relevant documentation
- be conducted in a safe environment; and,
- be assessed in the context of this sector's work environment; and,
- be assessed in compliance with relevant legislation/regulation and using policies, procedures and processes directly related to the industry sector for which it is being assessed; and,
- confirm consistent performance can be applied in a range of relevant workplace circumstances.

Where personal safety or environmental damage are limiting factors, assessment may occur in a simulated work environment* provided it is realistic and sufficiently rigorous to cover all aspects of this sector's workplace performance, including environment, task skills, task management skills, contingency management skills and job role environment skills.

Assessor requirements

Assessors must be able to clearly demonstrate current and relevant industry knowledge and experience to satisfy the mandatory regulatory standards as set out in the Standards for Registered Training Organisations (RTOs) 2015/Australian Quality Training Framework mandatory requirements for assessors current at the time of assessment and any relevant licensing and certification requirements. This includes:

- vocational competencies at least to the level being delivered and assessed
- current industry skills directly relevant to the training and assessment being provided
- current knowledge and skills in vocational training and learning that informs their training and assessment
- formal relevant qualifications in training and assessment
- having knowledge of and/or experience using the latest techniques and processes

- possessing the required level of RII training product knowledge
- having an understanding and knowledge of legislation and regulations relevant to the industry and to employment and workplaces
- demonstrating the performance evidence, and knowledge evidence outlined in this unit of competency, and
- the minimum years of current** work experience after competency has been obtained as specified below in an industry sector relevant to the outcomes of the unit.

It is also acceptable for the appropriately qualified assessor to work with an industry expert to conduct assessment together and for the industry expert to be involved in the assessment judgement. The industry expert must have current industry skills directly relevant to the training and assessment being provided. This means the industry subject matter expert must demonstrate skills and knowledge from the minimum years of current work experience after competency has been obtained as specified below, including time spent in roles related to the unit being assessed:

Industry sector	AQF indicator level***	Required assessor or industry subject matter expert experience
Drilling, Metalliferous Mining, Coal Mining, Extractive (Quarrying) and Civil Infrastructure	1	1 year
	2	2 years
Drilling, Coal Mining, Extractive (Quarrying), Metalliferous Mining and Civil Infrastructure	3-6	3 years
Other sectors	Where this unit is being assessed outside of the resources and infrastructure sectors assessor and/or industry subject matter expert experience should be in-line with industry standards for the sector in which it is being assessed and where no industry standard is specified should comply with any relevant regulation.	

*Guidance on simulated environments has been stipulated in the Companion Volume Implementation Guide located on VETNet.

**Assessors can demonstrate current work experience through employment within industry in a role relevant to the outcomes of the unit; or, for external assessors this can be demonstrated through exposure to industry by conducting a minimum number of site assessments as determined by the relevant industry sector, across various locations.

*** While a unit of competency does not have an AQF level, where a unit is being delivered outside of a qualification the first numeric character in the unit code should be considered as the AQF indicator level for assessment purposes.

Links

Companion Volume Implementation Guides is found on VETNet -
<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=88a61002-9a21-4386-aaf8-69c76e675272>

RIIWHS202E Enter and work in confined spaces

Modification History

Release	Comments
Release 1	This version first released with RII Resources and Infrastructure Industry Training Package Version 5.0.

Application

This unit describes the skills and knowledge required to enter and work in confined spaces in the resources and infrastructure industries.

It applies to those working in operational roles. They generally work under supervision to undertake a prescribed range of functions involving known routines and procedures and take responsibility for the quality of work outcomes.

Licensing, legislative and certification requirements that apply to this unit can vary between states, territories and industry sectors. Users must check requirements with relevant body before applying the unit.

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 National 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.

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
1. Plan and prepare for working in confined space	1.1 Obtain, interpret and confirm work requirements 1.2 Access, interpret and apply documentation required to enter and work in confined spaces 1.3 Identify and address potential risks, hazards and environmental issues, and implement control measures according to workplace procedures 1.4 Obtain and confirm authorisation of a confined space entry permit that meets regulatory requirements 1.5 Select and wear appropriate personal protective equipment for

ELEMENT	PERFORMANCE CRITERIA
	planned work activities 1.6 Obtain and interpret emergency procedures with the stand-by person, and be prepared for emergency situations 1.7 Identify, obtain and implement signage and barrier requirements according to workplace procedures 1.8 Select tools and equipment for the tasks, check for serviceability and rectify or report any faults to relevant personnel 1.9 Position rescue equipment by the entry permit
2. Work in confined space	2.1 Gain access to confined space 2.2 Test and monitor the atmosphere for harmful elements according to workplace procedures 2.3 Correctly apply tagging and lock-out procedures 2.4 Enter the confined space according to workplace procedures 2.5 Maintain ongoing communication with the stand-by person 2.6 Comply with entry permit requirements 2.7 Monitor and adhere to allocated entry time
3. Exit confined space	3.1 Exit confined space according to workplace procedures 3.2 Recover tools, equipment and materials 3.3 Conduct inspection of the confined spaces according to workplace procedures 3.4 Remove tagging and lock-out procedures 3.5 Complete confined space entry permit requirements according to workplace procedures
4. Clean up	4.1 Clear work area and dispose of materials according to workplace procedures 4.2 Remove, clean and store barriers and signs 4.3 Conduct equipment inspections to identify faults according to manufacturer specifications and workplace procedures and report to relevant personnel 4.4 Conduct routine operational servicing, lubrication and housekeeping activities according to workplace procedures 4.5 Process written maintenance records according to workplace procedures

Foundation Skills

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

SKILL	DESCRIPTION
Reading	Identifies and interprets information from workplace procedures, documentation and regulations
Writing	Produces and completes written documents required for workplace procedures
Self-management	Monitors and minimises own exposure to worksite risks and hazards during activities
Oral communication	Uses a range of communication techniques and systems to communicate with others

Unit Mapping Information

Supersedes and is equivalent to RIIWHS202D Entering and working in confined spaces.

Links

Companion Volume implementation guides is found on VETNet -

<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=88a61002-9a21-4386-aaf8-69c76e675272>

Assessment Requirements for RIIWHS202E Enter and work in confined spaces

Modification History

Release	Comments
Release 1	This version first released with RII Resources and Infrastructure Industry Training Package Version 5.0.

Performance Evidence

The candidate must demonstrate the ability to complete the tasks outlined in the elements, performance criteria and foundation skills of this unit, including evidence of the ability to:

- enter and work in confined spaces on at least two occasions, including:
 - obtaining the required entry permit and instructions for performing work in confined spaces
 - interpreting and applying workplace procedures
 - applying tagging and lock out procedures
 - selecting, wearing and caring for personal protective equipment
 - using atmospheric monitoring devices prior to entering the confined space
 - entering the confined space
 - working in the confined space
 - using atmospheric monitoring devices during confined space activity
 - applying safe materials handling methods
 - exiting the confined space
 - removing tagging and lock out.

During the above, the candidate must:

- locate and apply relevant legislation, documentation, policies and procedures and confirm that the work activity is compliant
- implement the requirements, procedures and techniques for entering and working in confined spaces
- work effectively with others to enter and work in confined spaces in a way that meets all required outcomes
- communicate clearly and concisely with others to receive and clarify work instructions and to determine coordination requirements prior to commencing and during work activities.

Knowledge Evidence

The candidate must be able to demonstrate knowledge to complete the tasks outlined in the elements, performance criteria and foundation skills of this unit, including knowledge of:

- key legislation relevant to enter and work in confined spaces
- key policies, procedures and documentation required to enter and work in confined spaces, including:
 - entry and exit procedures, risks and regulations
 - site and equipment safety requirements
 - site isolation and site control responsibilities and authorities
 - safety data sheets
 - incidence and emergency response documentation
- principles and techniques for identifying and responding to:
 - areas that constitute confined spaces
 - types of air contaminants and toxic gases
 - limitations of breathing apparatus
 - relevant hazards and emergencies
- equipment types, characteristics, technical capabilities and limitations
- principles and techniques for using confined space and industry terminology
- techniques for coordinating and communicating job activities with others.

Assessment Conditions

Mandatory conditions for assessment of this unit are stipulated below. The assessment must:

- include access to:
 - personal protective equipment
 - equipment related to entering and working in confined spaces
 - relevant documentation
- be conducted in a safe environment; and,
- be assessed in the context of this sector's work environment; and,
- be assessed in compliance with relevant legislation/regulation and using policies, procedures and processes directly related to the industry sector for which it is being assessed; and,
- confirm consistent performance can be applied in a range of relevant workplace circumstances.

Where personal safety or environmental damage are limiting factors, assessment may occur in a simulated work environment* provided it is realistic and sufficiently rigorous to cover all aspects of this sector's workplace performance, including environment, task skills, task management skills, contingency management skills and job role environment skills.

Assessor requirements

Assessors must be able to clearly demonstrate current and relevant industry knowledge and experience to satisfy the mandatory regulatory standards as set out in the Standards for Registered Training Organisations (RTOs) 2015/Australian Quality Training Framework mandatory requirements for assessors current at the time of assessment and any relevant licensing and certification requirements. This includes:

- vocational competencies at least to the level being delivered and assessed
- current industry skills directly relevant to the training and assessment being provided
- current knowledge and skills in vocational training and learning that informs their training and assessment
- formal relevant qualifications in training and assessment
- having knowledge of and/or experience using the latest techniques and processes
- possessing the required level of RII training product knowledge
- having an understanding and knowledge of legislation and regulations relevant to the industry and to employment and workplaces
- demonstrating the performance evidence, and knowledge evidence outlined in this unit of competency, and
- the minimum years of current** work experience after competency has been obtained as specified below in an industry sector relevant to the outcomes of the unit.

It is also acceptable for the appropriately qualified assessor to work with an industry expert to conduct assessment together and for the industry expert to be involved in the assessment judgement. The industry expert must have current industry skills directly relevant to the training and assessment being provided. This means the industry subject matter expert must demonstrate skills and knowledge from the minimum years of current work experience after competency has been obtained as specified below, including time spent in roles related to the unit being assessed:

Industry sector	AQF indicator level***	Required assessor or industry subject matter expert experience
Drilling, Metalliferous Mining, Coal Mining, Extractive (Quarrying) and Civil Infrastructure	1	1 year
	2	2 years
Drilling, Coal Mining, Extractive (Quarrying), Metalliferous Mining and Civil Infrastructure	3-6	3 years
Other sectors	Where this unit is being assessed outside of the resources and infrastructure sectors assessor and/or industry subject matter expert experience should be in-line with industry standards for the sector in which it is being assessed and where no industry standard is specified should comply with any relevant regulation.	

*Guidance on simulated environments has been stipulated in the Companion Volume Implementation Guide located on VETNet.

**Assessors can demonstrate current work experience through employment within industry in a role relevant to the outcomes of the unit; or, for external assessors this can be demonstrated through exposure to industry by conducting a minimum number of site assessments as determined by the relevant industry sector, across various locations.

*** While a unit of competency does not have an AQF level, where a unit is being delivered outside of a qualification the first numeric character in the unit code should be considered as the AQF indicator level for assessment purposes.

Links

Companion Volume implementation guides is found on VETNet -

<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=88a61002-9a21-4386-aaf8-69c76e675272>

RIIWHS204E Work safely at heights

Modification History

Release	Comments
Release 1	This version first released with RII Resources and Infrastructure Industry Training Package Version 5.0.

Application

This unit describes the skills and knowledge required to work safely at heights in the resources and infrastructure industries.

It applies to those working in operational roles. They generally work under supervision to undertake a prescribed range of functions involving known routines and procedures and take responsibility for the quality of work outcomes.

Licensing, legislative and certification requirements that apply to this unit can vary between states, territories and industry sectors. Users must check requirements with relevant body before applying the unit.

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 National 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.

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
1. Identify work requirements	1.1 Obtain, interpret and confirm work requirements 1.2 Access, interpret and apply documentation required to work safely at heights 1.3 Identify and address potential risks, hazards and environmental issues, and implement control measures according to workplace procedures 1.4 Inspect worksite to determine layout and physical condition, condition of structures and equipment requirements 1.5 Adhere to legislative requirements

ELEMENT	PERFORMANCE CRITERIA
	1.6 Select appropriate plant, tools and equipment for the job, inspect them for serviceability and rectify or report any faults prior to commencement of work activities 1.7 Select and wear personal protective equipment appropriate for work activities 1.8 Obtain and interpret emergency procedures, and be prepared for emergency situations
2. Identify work procedures and instructions	2.1 Consult with relevant personnel to select materials, tools and equipment required for the work activities 2.2 Inspect and install fall protection and perimeter protection equipment 2.3 Identify methods of moving tools and equipment to the work area according to workplace procedures 2.4 Ensure the safety system has been installed according to workplace procedures 2.5 Select and install appropriate signs and barricades according to workplace procedures
3. Access and install equipment	3.1 Consult with relevant personnel to ensure anchor fall protection and associated equipment is fitted and adjusted according to workplace procedures 3.2 Ensure all required equipment is installed according to workplace procedures 3.3 Access work area for people, tools and equipment according to workplace procedures 3.4 Locate tools and materials to eliminate or minimise the risk of items being knocked down
4. Perform work at heights	4.1 Check access from ground to work area and ensure it is safe according to workplace procedures 4.2 Keep fall equipment in place and adjusted appropriately for movement during work 4.3 Undertake manual handling of materials and equipment according to workplace procedures 4.4 Locate materials and equipment ensuring that they are safely secured and distributed according to workplace procedures 4.5 Check safety system periodically for compliance 4.6 Monitor risk control measures to ensure that they are effective and appropriate according to workplace procedures 4.7 Reassess risk control measures, as required, in accordance with workplace procedures and undertake alterations
5. Clean up work area	5.1 Consult with relevant personnel to ensure safety system is dismantled and removed according to workplace procedures 5.2 Clear work area and dispose of materials

ELEMENT	PERFORMANCE CRITERIA
	5.3 Clean and maintain the plant and equipment, inspect for ensure serviceability and rectify or report any faults or issues to relevant personnel 5.4 Process written maintenance records according to workplace procedures

Foundation Skills

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

SKILL	DESCRIPTION
Reading	Identifies and interprets information from workplace procedures, documentation and regulations
Self-management	Monitors and minimises own exposure to worksite risks and hazards during activities
Oral communication	Uses a range of communication techniques and systems to communicate with others

Unit Mapping Information

Supersedes and is equivalent to RIIWHS204D Working safely at heights.

Links

Companion Volume implementation guides is found on VETNet -
<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=88a61002-9a21-4386-aaf8-69c76e675272>

Assessment Requirements for RIIWHS204E Work safely at heights

Modification History

Release	Comments
Release 1	This version first released with RII Resources and Infrastructure Industry Training Package Version 5.0.

Performance Evidence

The candidate must demonstrate the ability to complete the tasks outlined in the elements, performance criteria and foundation skills of this unit, including evidence of the ability to:

- work safely at heights on at least two occasions, including:
 - accessing, interpreting and applying technical and safety information for working at heights
 - assessing hazards and risks associated with working at heights and implementing control methods
 - selecting, wearing and caring for personal protective equipment
 - identifying required safety systems including fall protection and associated equipment
 - checking the correct fitting, adjusting and anchoring of fall protection and associated equipment
 - performing work safely at heights.

During the above, the candidate must:

- locate and apply relevant documentation, policies and procedures and confirm that the work activity is compliant
- implement the requirements, procedures and techniques for working safely at heights
- work effectively with others to work safely at heights in a way that meets all required outcomes
- communicate clearly and concisely with others to receive and clarify work instructions and to determine coordination requirements prior to commencing and during work activities.

Knowledge Evidence

The candidate must be able to demonstrate knowledge to complete the tasks outlined in the elements, performance criteria and foundation skills of this unit, including knowledge of:

- key legislation required to work safely at heights

- key policies, procedures and documentation required to work safely at heights, including:
 - statutory and regulatory authority requirements
- principles and techniques for work safely at heights, including:
 - heights safety systems
 - safe work methods
- principles and techniques for identifying names and functions of equipment, components and materials
- principles and techniques for complying with equipment manufacturer instructions and specifications
- safe shifting and handling of tools and materials
- principles and techniques for identifying relevant hazards and emergencies
- techniques for coordinating and communicating job activities with others.

Assessment Conditions

Mandatory conditions for assessment of this unit are stipulated below. The assessment must:

- include access to:
 - personal protective equipment
 - equipment related to working safely at heights
 - relevant documentation
- be conducted in a safe environment; and,
- be assessed in the context of this sector's work environment; and,
- be assessed in compliance with relevant legislation/regulation and using policies, procedures and processes directly related to the industry sector for which it is being assessed; and,
- confirm consistent performance can be applied in a range of relevant workplace circumstances.

Where personal safety or environmental damage are limiting factors, assessment may occur in a simulated work environment* provided it is realistic and sufficiently rigorous to cover all aspects of this sector's workplace performance, including environment, task skills, task management skills, contingency management skills and job role environment skills.

Assessor requirements

Assessors must be able to clearly demonstrate current and relevant industry knowledge and experience to satisfy the mandatory regulatory standards as set out in the Standards for Registered Training Organisations (RTOs) 2015/Australian Quality Training Framework mandatory requirements for assessors current at the time of assessment and any relevant licensing and certification requirements. This includes:

- vocational competencies at least to the level being delivered and assessed
- current industry skills directly relevant to the training and assessment being provided
- current knowledge and skills in vocational training and learning that informs their training and assessment
- formal relevant qualifications in training and assessment

- having knowledge of and/or experience using the latest techniques and processes
- possessing the required level of RII training product knowledge
- having an understanding and knowledge of legislation and regulations relevant to the industry and to employment and workplaces
- demonstrating the performance evidence, and knowledge evidence outlined in this unit of competency, and
- the minimum years of current** work experience after competency has been obtained as specified below in an industry sector relevant to the outcomes of the unit.

It is also acceptable for the appropriately qualified assessor to work with an industry expert to conduct assessment together and for the industry expert to be involved in the assessment judgement. The industry expert must have current industry skills directly relevant to the training and assessment being provided. This means the industry subject matter expert must demonstrate skills and knowledge from the minimum years of current work experience after competency has been obtained as specified below, including time spent in roles related to the unit being assessed:

Industry sector	AQF indicator level***	Required assessor or industry subject matter expert experience
Drilling, Metalliferous Mining, Coal Mining, Extractive (Quarrying) and Civil Infrastructure	1	1 year
	2	2 years
Drilling, Coal Mining, Extractive (Quarrying), Metalliferous Mining and Civil Infrastructure	3-6	3 years
Other sectors	Where this unit is being assessed outside of the resources and infrastructure sectors assessor and/or industry subject matter expert experience should be in-line with industry standards for the sector in which it is being assessed and where no industry standard is specified should comply with any relevant regulation.	

*Guidance on simulated environments has been stipulated in the Companion Volume Implementation Guide located on VETNet.

**Assessors can demonstrate current work experience through employment within industry in a role relevant to the outcomes of the unit; or, for external assessors this can be demonstrated through exposure to industry by conducting a minimum number of site assessments as determined by the relevant industry sector, across various locations.

*** While a unit of competency does not have an AQF level, where a unit is being delivered outside of a qualification the first numeric character in the unit code should be considered as the AQF indicator level for assessment purposes.

Links

Companion Volume implementation guides is found on VETNet -
<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=88a61002-9a21-4386-aaf8-69c76e675272>

RIIWHS205E Control traffic with stop-slow bat

Modification History

This unit replaces RIIWHS205D Control traffic with slow-stop bat. Significant endorseable amendments have been made to Elements, Performance Criteria, Foundation Skills, Performance Evidence and Knowledge Evidence to better reflect current industry practices and clarify training outcomes.

Application

This unit describes the skills and knowledge required to control vehicle and pedestrian traffic using stop-slow bats, hand signals and approved communication devices in the resources and infrastructure industries.

It applies to those working in operational roles. They generally work in teams in live traffic environments under some degree of supervision.

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 National Model WHS Legislation has not been implemented registered training organisations are advised to contextualise the unit of competency by referring to the existing state/territory OHS legislative requirements

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
1. Prepare to control traffic	1.1 Select and wear personal protective equipment required for work activities 1.2 Access, interpret and confirm work instructions and plan work 1.3 Access, interpret and apply required workplace policies, procedures, jurisdictional safety and environmental protection requirements 1.4 Obtain and interpret site emergency procedures and prepare for accidents and emergencies 1.5 Select tools and equipment, check for serviceability, and rectify faults and report according to workplace policies and procedures
2. Control traffic and operate	2.1 Adjust approved communication devices according to site

communication devices	requirements 2.2 Direct traffic using hand held stop-slow bat and visibly clear and unobstructed hand signals as required 2.3 Monitor traffic, make adjustments for changing traffic conditions and position waiting vehicles as required 2.4 Communicate messages to other personnel, confirm recipient understanding and clarify as required 2.5 Check and perform maintenance on approved communication devices according to requirements 2.6 Check communications contact after nominated period of non-contact 2.7 Report traffic offenders according to workplace policies and procedures
3. Conduct housekeeping activities	3.1 Confirm and remove signs and devices in line with job requirements and cover as required 3.2 Clean, check and store tools and equipment 3.3 Report environmental damage and potential for future damage as required

Foundation Skills

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

Skill	Description
Numeracy	Applies basic mathematical problem solving processes, including simple addition, subtraction, multiplication and division
Oral communication	Listens to short, explicit instructions for work procedures and asks questions to clarify and confirm
Reading	Identifies and interprets information from workplace procedures, documentation, legislation and regulations
Technology	Identifies purposes, specific functions and key features of common digital systems and tools and operates them as required
Writing	Produces and completes workplace reports using appropriate vocabulary, grammatical structures and conventions

Unit Mapping Information

Supersedes and is equivalent to RIIWHS205D Control traffic with stop-slow bat.

Links

Companion Volume implementation guides are found in VETNet -

<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=88a61002-9a21-4386-aaf8-69c76e675272>

Assessment Requirements for RIIWHS205E Control traffic with stop-slow bat

Modification History

This unit replaces RIIWHS205D Control traffic with slow-stop bat. Significant endorseable amendments have been made to Elements, Performance Criteria, Foundation Skills, Performance Evidence and Knowledge Evidence to better reflect current industry practices and clarify training outcomes.

Performance Evidence

The candidate must demonstrate the ability to complete the tasks outlined in the elements, performance criteria and foundation skills of this unit, including evidence of the ability to:

- Control traffic with a stop-slow bat according to traffic guidance schemes in a manner that is safe and follows workplace policies and procedures on at least two occasions, including:
 - directing pedestrian traffic, including at least one of the following:
 - ~ pedestrians with mobility issues
 - ~ pedestrians with prams
 - ~ cyclists
 - using approved communication devices to transmit message and report traffic offenders, including the use of at least one of the following devices:
 - ~ hand held radios
 - ~ telephones.

During the above, the candidate must:

- coordinate operations with pilot vehicle in a shuttle flow work arrangement
- participate in risk assessment and management processes
- identify the type and scope of hazards and their impact and recommend risk control measures
- identify key environmental protection issues and describe required solutions
- locate and complete at least one incident report
- complete housekeeping requirements.

Knowledge Evidence

The candidate must be able to demonstrate knowledge to complete the tasks outlined in the elements, performance criteria and foundation skills of this unit, including knowledge of:

- risk assessment processes and hierarchy of control
- work instructions and procedures for planning work
- jurisdictional safety requirements relevant to temporary traffic management

- environmental protection requirements
- site emergency procedures
- site and equipment safety requirements
- traffic control requirements and procedures for directing the following pedestrian traffic groups:
 - pedestrians with mobility issues
 - pedestrians with prams
 - cyclists
- traffic guidance scheme and traffic management plan compliance
- communication device operations, including:
 - hand held radios
 - telephones
- traffic control equipment types, characteristics, technical capabilities and limitations
- operational and maintenance procedures for equipment
- site isolation and traffic control responsibilities and authorities
- the effects of travel speed and vehicle mass on stopping distances.

Assessment Conditions

Mandatory conditions for assessment of this unit are stipulated below. The assessment must:

- include access to:
 - stop-slow bat
 - personal protective equipment
 - hand held radio or telephone
- be conducted in a safe environment; and
- be assessed in context of this sector's work environment on a real live road setting under supervision; and
- be assessed in compliance with relevant legislation/regulation and using policies, procedures, processes and operational manuals directly related to the industry sector for which it is being assessed; and
- confirm consistent performance can be applied in a range of relevant workplace circumstances

Where personal safety or environmental damage are limiting factors, assessment may occur in a simulated work environment* provided it is realistic and sufficiently rigorous to cover all aspects of this sector's workplace performance, including environment, task skills, task management skills, contingency management skills and job role environment skills.

Assessor Requirements

Assessors must be able to clearly demonstrate current and relevant industry knowledge and experience to satisfy the mandatory competency standards as set out in the Standards for Registered Training Organisations (RTOs) 2015/Australian Quality Training Framework mandatory requirements for assessors current at the time of assessment and any relevant licensing and certification requirements. This includes:

- vocational competencies at least to the level being delivered and assessed
- current industry skills directly relevant to the training and assessment being provided
- current knowledge and skills in vocational training and learning that informs their training and assessment
- formal relevant qualifications in training and assessment
- having knowledge of and/or experience using the latest techniques and processes
- possessing 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 Construction	1	1 year
	2	2 years
Drilling, Coal Mining and Extractive (Quarrying), Metalliferous Mining and Civil Construction	3-6	3 years
Other sectors	Where this unit is being assessed outside of the resources and infrastructure sectors assessor and/or industry subject matter expert experience should be in-line with industry standards for the sector in which it is being assessed and where no industry standard is specified should comply with any	

	relevant regulation.

*Guidance on simulated environments has been stipulated in the RII Companion Volume Implementation Guide located on VETNet.

**Assessors can demonstrate current work experience through employment within industry in a role relevant to the outcomes of the unit; or, for external assessors this can be demonstrated through exposure to industry by conducting a minimum number of site assessments as determined by the relevant industry sector, across various locations.

*** While a unit of competency does not have an AQF level, where a unit is being delivered outside of a qualification the first numeric character in the unit code should be considered as the AQF indicator level for assessment purposes.

Links

Companion Volume implementation guides are found in VETNet -

<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=88a61002-9a21-4386-aaf8-69c76e675272>

RIIWHS302E Implement traffic management plans

Modification History

This unit replaces RIIWHS302D Implement traffic management plan. Significant endorseable amendments have been made to Elements, Performance Criteria, Foundation Skills, Performance Evidence and Knowledge Evidence to better reflect current industry practices and clarify training outcomes.

Application

This unit describes the skills and knowledge required to set out, monitor and close down traffic management plans and traffic guidance schemes in civil construction.

It applies to those working in supervisory roles. They generally work in teams in live traffic environments and hold some responsibility for the outcomes of others.

Licensing, legislative and certification requirements that apply to this unit can vary between states, territories, and industry sectors. Users must check requirements with relevant body before applying the unit.

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 National Model WHS Legislation has not been implemented registered training organisations are advised to contextualise the unit of competency by referring to the existing state/territory OHS legislative requirements.

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
1. Prepare to implement traffic management plan	1.1 Determine worksite requirements and scope of traffic management plan and traffic guidance scheme 1.2 Identify, address and report potential risks, hazards and environmental issues and determine control measures 1.3 Validate suitability of traffic management plan and traffic guidance scheme to site conditions, traffic volumes and work activities and confirm requirements are met 1.4 Resource personnel to implement traffic management plan and traffic guidance scheme according to workplace policies and procedures 1.5 Confirm required liaison and communication activities are

	carried out according to instructions 1.6 Provide traffic guidance scheme implementation instructions to traffic control personnel and clarify and confirm recipient understanding as required
2. Set out traffic guidance scheme	2.1 Check required signs and devices are positioned and installed according to traffic guidance scheme 2.2 Inspect traffic guidance scheme and authorise roadwork crew to proceed with work activities 2.3 Confirm roadwork crew are protected from work site hazards
3. Monitor traffic guidance scheme	3.1 Confirm traffic flow is being monitored by required personnel according to traffic guidance scheme 3.2 Apply adjustments to traffic guidance scheme as necessary to maintain required traffic flow and according to own job role 3.3 Monitor work activities and apply required measures to mitigate and address roadwork crew and road user non-conformance 3.4 Apply workplace policies and procedures to address offending road users as required
4. Close down work activities	4.1 Direct covering and required removal of equipment, signs and devices according to traffic guidance scheme 4.2 Confirm tools and equipment are cleaned, checked, maintained and stored according to workplace policies and procedures 4.3 Finalise traffic work zone close-down and complete required reporting

Foundation Skills

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

Skill	Description
Numeracy	Applies basic mathematical problem solving processes, including simple addition, subtraction, multiplication and division
Oral communication	- Presents information and provides assistance using industry specific vocabulary - Uses listening and questioning to clarify and confirm understanding
Reading	Identifies and interprets information from workplace procedures, documentation, legislation and regulations

Writing	• Produces and completes workplace reports, including risk management matrices, using appropriate vocabulary, grammatical structures and conventions

Unit Mapping Information

Supersedes and is equivalent to RIIWHS302D Implement traffic management plan.

Links

Companion Volume implementation guides are found in VETNet -

<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=88a61002-9a21-4386-aaf8-69c76e675272>

Assessment Requirements for RIIWHS302E Implement traffic management plans

Modification History

This unit replaces RIIWHS302D Implement traffic management plan. Significant endorseable amendments have been made to Elements, Performance Criteria, Foundation Skills, Performance Evidence and Knowledge Evidence to better reflect current industry practices and clarify training outcomes.

Performance Evidence

The candidate must demonstrate the ability to complete the tasks outlined in the elements, performance criteria and foundation skills of this unit, including evidence of the ability to:

- implement traffic management plans in a manner that is safe and follows workplace policies and procedures on at least three separate live traffic projects, including:
 - completing at least two of the following:
 - ~ lane closure
 - ~ lateral shift
 - ~ implementing a traffic management plan at an intersection
 - completing at least one project controlling site construction vehicles.

During the above, the candidate must:

- locate and apply required legislations, documentation, policies and procedures including documentation required for worksite projects and required traffic management
- work with traffic control personnel to implement and complete a traffic management plan and traffic guidance scheme that meets all required outcomes including:
 - confirming all necessary resources are available, including qualified personnel
 - confirming all personnel understand, and are able to implement, their roles, task requirements, safety requirements and reporting requirements
 - communicating with others to resolve resourcing and coordination requirements prior to and during work activities
 - confirming that unattended sites and shut-down procedures are completed according to traffic management plan and traffic guidance scheme
 - complying with written and verbal reporting requirements and procedures, including reporting offending road users.

Knowledge Evidence

The candidate must be able to demonstrate knowledge to complete the tasks outlined in the elements, performance criteria and foundation skills of this unit, including knowledge of:

- required legislation, regulations, codes and procedures including Austroads Codes of Practice and WHS applicable to temporary traffic management

- temporary traffic management principles
- risk management principles and procedures for identifying, analysing and treating potential hazards and risks
- key principles for implementing WHS, including the role of Job Safety Analysis, Job Safety and Environmental Analysis and Safe Work Method statements.
- scope of authority to modify traffic management plan and traffic guidance scheme
- basic signalling procedures for temporary traffic management
- procedures for selecting, using and placing signs and devices, including sequences of installation and removal and provisions for unattended sites
- radio operations procedures and protocols
- equipment types, characteristics, technical capabilities and limitations, including for required specialist and externally-sourced equipment
- site isolation, traffic control and emergency responsibilities and authorities.

Assessment Conditions

Mandatory conditions for assessment of this unit are stipulated below. The assessment must:

- include access to:
 - traffic management plan
 - traffic guidance scheme
 - personal protective equipment
 - devices, equipment and signs specified in the performance criteria
- be conducted in a safe environment; and,
- be assessed in the context of this sector's work environment on a real live road setting under supervision; and,
- be assessed in compliance with relevant legislation/regulation and using policies, procedures and processes directly related to the industry sector for which it is being assessed; and,
- confirm consistent performance can be applied in a range of relevant workplace circumstances.

Where personal safety or environmental damage are limiting factors, assessment may occur in a simulated work environment* provided it is realistic and sufficiently rigorous to cover all aspects of this sector's workplace performance, including environment, task skills, task management skills, contingency management skills and job role environment skills.

Assessor Requirements

Assessors must be able to clearly demonstrate current and relevant industry knowledge and experience to satisfy the mandatory regulatory standards as set out in the Standards for Registered Training Organisations (RTOs) 2015/Australian Quality Training Framework mandatory requirements for assessors current at the time of assessment and any relevant licensing and certification requirements. This includes:

- vocational competencies at least to the level being delivered and assessed
- current industry skills directly relevant to the training and assessment being provided

- current knowledge and skills in vocational training and learning that informs their training and assessment
- formal relevant qualifications in training and assessment
- having knowledge of and/or experience using the latest techniques and processes
- possessing the required level of RII training product knowledge
- having an understanding and knowledge of legislation and regulations relevant to the industry and to employment and workplaces
- demonstrating the performance evidence, and knowledge evidence outlined in this unit of competency, and
- the minimum years of current** work experience after competency has been obtained as specified below in an industry sector relevant to the outcomes of the unit.

It is also acceptable for the appropriately qualified assessor to work with an industry expert to conduct assessment together and for the industry expert to be involved in the assessment judgement. The industry expert must have current industry skills directly relevant to the training and assessment being provided. This means the industry subject matter expert must demonstrate skills and knowledge from the minimum years of current work experience after competency has been obtained as specified below, including time spent in roles related to the unit being assessed:

Industry sector	AQF indicator level***	Required assessor or industry subject matter expert experience
Drilling, Metalliferous Mining, Coal Mining, Extractive (Quarrying) and Civil Infrastructure	1	1 year
	2	2 years
Drilling, Coal Mining, Extractive (Quarrying), Metalliferous Mining and Civil Infrastructure	3-6	3 years
Other sectors	Where this unit is being assessed outside of the resources and infrastructure sectors assessor and/or industry subject matter expert experience should be in-line with industry standards for the sector in which it is being assessed and where no industry standard is specified should comply with any relevant regulation.	

*Guidance on simulated environments has been stipulated in the RII Companion Volume Implementation Guide located on VETNet.

**Assessors can demonstrate current work experience through employment within industry in a role relevant to the outcomes of the unit; or, for external assessors this can be demonstrated through exposure to industry by conducting a minimum number of site assessments as determined by the relevant industry sector, across various locations.

*** While a unit of competency does not have an AQF level, where a unit is being delivered outside of a qualification the first numeric character in the unit code should be considered as the AQF indicator level for assessment purposes.

Links

Companion Volume implementation guides are found in VETNet -
<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=88a61002-9a21-4386-aaf8-69c76e675272>

RIIWMG203E Drain and dewater civil construction sites

Modification History

Release	Comments
Release 1	This version first released with RII Resources and Infrastructure Industry Training Package Version 6.0.

Application

This unit describes the skills and knowledge required to drain and dewater civil construction sites. This includes establishing sedimentation controls, constructing sumps, installing surface or submersible pumps, and draining surface water using surface drains.

It applies to those working in operational roles. They generally work under supervision to undertake a prescribed range of functions involving known routines and procedures and take some responsibility for the quality of work outcomes.

Licensing, legislative and certification requirements that apply to this unit can vary between states, territories and industry sectors. Users must check requirements with relevant body before applying the unit.

Unit Sector

Civil construction

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
1. Plan and prepare to drain and dewater	1.1 Obtain, interpret, clarify and confirm work requirements 1.2 Access, interpret and apply documentation required to drain and dewater civil construction sites 1.3 Obtain and interpret emergency procedures and identify steps required to respond to emergencies 1.4 Select and wear personal protective equipment according to site requirements 1.5 Confirm and identify requirements for complying with environmental protection, safety and traffic management signage

ELEMENT	PERFORMANCE CRITERIA
	requirements 1.6 Identify potential hazards and environmental issues, implement control measures within scope of own role and escalate where required 1.7 Select plant, tools and equipment required to carry out tasks and check for faults 1.8 Identify, confirm and locate materials required for work application
2. Implement sedimentation control measures	2.1 Position sedimentation controls according to job requirements 2.2 Construct sedimentation control barriers according to job requirements 2.3 Position geotextiles according to job requirements
3. Remove surface water	3.1 Establish temporary drainage systems to drain or divert water to storm water drainage system 3.2 Remove slab and site surface water and direct to temporary drainage system 3.3 Fill surface holes and depressions according to job requirements 3.4 Drain surface water to drainage system
4. Construct sump	4.1 Determine sump position according to job specifications and sump positioning requirements 4.2 Construct sumps according to job requirements
5. Remove water from sump	5.1 Install surface or submersible pumps according to job requirements 5.2 Locate surface pump close to sump 5.3 Pump water to temporary drainage system 5.4 Disperse discharged water according to job and site requirements
6. Conduct clean-up activities	6.1 Clear work area and dispose of or recycle materials according to site requirements 6.2 Clean, check, perform maintenance on and store plant, tools and equipment according to manufacturer specifications and site requirements

Foundation Skills

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

SKILL	DESCRIPTION

SKILL	DESCRIPTION
Oral communication	- Identifies and interprets information from verbal instructions - Conveys information and instructions to others verbally
Self-management	Monitors and minimises own exposure to worksite risks and hazards during work activities

Unit Mapping Information

Supersedes and is equivalent to RIIWMG203D Drain and dewater civil construction site.

Links

Companion Volume Implementation Guide is found on VETNet -

<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=88a61002-9a21-4386-aaf8-69c76e675272>

Assessment Requirements for RIIWMG203E Drain and dewater civil construction sites

Modification History

Release	Comments
Release 1	This version first released with RII Resources and Infrastructure Industry Training Package Version 6.0.

Performance Evidence

The candidate must demonstrate the ability to complete the tasks outlined in the elements, performance criteria and foundation skills of this unit, including evidence of the ability to:

- drain and dewater civil construction sites on at least two occasions, including:
 - dewatering a trench or pit using a pump
 - selecting and establishing sedimentation controls
 - selecting, installing and using surface or submersible pumps
 - pumping and dispersing surface and sub-surface water
 - draining surface water from a site using surface drains.

During the above, the candidate must:

- locate and apply required legislation, documentation, policies and procedures
- identify, report and record hazards and risks
- work with others to drain and dewater civil construction sites that meet required outcomes, including:
 - using communication techniques and equipment to convey information to others, including signage to advise others of work activity and exclusion zones
 - communicating with others to receive and clarify work instructions
 - completing written and verbal reporting requirements and procedures.

Knowledge Evidence

The candidate must be able to demonstrate knowledge to complete the tasks outlined in the elements, performance criteria and foundation skills of this unit, including knowledge of:

- legislation required to drain and dewater civil construction sites
- policies, procedures and documentation required to drain and dewater civil construction sites, including those relating to:
 - hazard and risk management

- work health and safety
- emergency response
- site and equipment safety
- environmental protection
- waste management
- communication techniques and equipment
- site isolation and traffic control responsibilities
- operational, maintenance and basic diagnostic procedures
- project quality requirements
- work instructions
- job plans and specifications
- site requirements
- manufacturer specifications for required plant and equipment
- workplace recording and reporting
- principles and techniques required to drain and dewater civil construction sites, including those relating to:
 - dewatering
 - areas to be drained
 - drainage systems
 - project sites
 - sedimentation controls
 - sump positioning
 - interpreting engineering drawings
- types, characteristics, technical capabilities and limitations of plant and equipment required to drain and dewater civil construction sites, including:
 - hoses
 - shovels
 - pumps
 - plastic piping
 - silt fences
- materials safety data sheet (SDS) compliance processes
- components of job safety analyses (JSAs), job safety environmental analyses (JSEAs), and safe work method statements (SWMs)
- civil construction terminology relating to draining and dewatering civil construction sites.

Assessment Conditions

Mandatory conditions for assessment of this unit are stipulated below. The assessment must:

- include access to:
 - personal protective equipment
 - equipment required to drain and dewater civil construction sites

- be conducted in a safe environment; and,
- be assessed in the context of this sector's work environment; and,
- be assessed in compliance with required legislation/regulation and using policies, procedures and processes directly related to the industry sector for which it is being assessed; and,
- confirm consistent performance can be applied in a range of relevant workplace circumstances.

Where personal safety or environmental damage are limiting factors, assessment may occur in a simulated work environment* provided it is realistic and sufficiently rigorous to cover all aspects of this sector's workplace performance, including environment, task skills, task management skills, contingency management skills and job role environment skills.

Assessor requirements

Assessors must be able to clearly demonstrate current and relevant industry knowledge and experience to satisfy the mandatory regulatory standards as set out in the Standards for Registered Training Organisations 2015/Australian Quality Training Framework mandatory requirements for assessors current at the time of assessment and any relevant licensing and certification requirements. This includes:

- vocational competencies at least to the level being delivered and assessed
- current industry skills directly relevant to the training and assessment being provided
- current knowledge and skills in vocational training and learning that informs their training and assessment
- formal relevant qualifications in training and assessment
- having knowledge of and/or experience using the latest techniques and processes
- possessing the required level of RII training product knowledge
- having an understanding and knowledge of legislation and regulations relevant to the industry and to employment and workplaces
- demonstrating the performance evidence, and knowledge evidence outlined in this unit of competency, and
- the minimum years of current** work experience after competency has been obtained as specified below in an industry sector relevant to the outcomes of the unit.

It is also acceptable for the appropriately qualified assessor to work with an industry expert to conduct assessment together and for the industry expert to be involved in the assessment judgement. The industry expert must have current industry skills directly relevant to the training and assessment being provided. This means the industry subject matter expert must demonstrate skills and knowledge from the minimum years of current work experience after competency has been obtained as specified below, including time spent in roles related to the unit being assessed:

Industry sector	AQF indicator level***	Required assessor or industry subject matter expert experience
Drilling, Metalliferous Mining, Coal Mining, Extractive (Quarrying)	1	1 year
	2	2 years

and Civil Infrastructure		
Drilling, Coal Mining, Extractive (Quarrying), Metalliferous Mining and Civil Infrastructure	3-6	3 years
Other sectors	Where this unit is being assessed outside of the resources and infrastructure sectors assessor and/or industry subject matter expert experience should be in-line with industry standards for the sector in which it is being assessed and where no industry standard is specified should comply with any relevant regulation.	

*Guidance on simulated environments has been stipulated in the RII implementation guide located on VETNet.

**Assessors can demonstrate current work experience through employment within industry in a role relevant to the outcomes of the unit; or, for external assessors this can be demonstrated through exposure to industry by conducting a minimum number of site assessments as determined by the relevant industry sector, across various locations.

*** While a unit of competency does not have an AQF level, where a unit is being delivered outside of a qualification the first numeric character in the unit code should be considered as the AQF indicator level for assessment purposes.

Links

Companion Volume Implementation Guide is found on VETNet - <https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=88a61002-9a21-4386-aaf8-69c76e675272>

TLIB0002 Carry out vehicle inspection

Modification History

Release 1. This is 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 carry out an inspection of a commercial vehicle in accordance with relevant workplace procedures.

It includes conducting routine checks, cleaning vehicles, ensuring all specified safety requirements are met and ensuring vehicles are operational according to workplace procedures.

Work is performed with limited or minimum supervision, and with duty of care for self and others in achieving the prescribed outcomes.

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

Pre-requisite Unit

Not applicable.

Competency Field

B – Equipment Checking and Maintenance

Unit Sector

Not applicable.

Elements and Performance Criteria

ELEMENTS

Elements describe the essential outcomes.

1 Check and clean vehicle

PERFORMANCE CRITERIA

Performance criteria describe the performance needed to demonstrate achievement of the element.

1.1 Vehicle hazards are identified and required action is taken to minimise, control or eliminate identified hazards

1.2 Visual check of internal and external condition of

vehicle is carried out and relevant documentation is completed in accordance with workplace procedures

- 1.3** Pre-operational inspections and checks are conducted in accordance with workplace procedures
- 1.4** Associated equipment is tested to ensure it functions correctly to manufacturer specifications and workplace procedures
- 1.5** Operational checks are carried out after engine is started to identify possible defects
- 1.6** Shut-down checks are carried out to identify possible defects
- 1.7** Warning systems (instruments and gauges) are checked to ensure they are operational in accordance with manufacturer specifications and workplace procedures
- 1.8** Vehicle monitoring device including In Vehicle Monitoring System (IVMS) and telematics is logged on/off as required in accordance with manufacturer instructions and workplace procedures
- 1.9** Vehicle is cleaned in accordance with work health and safety (WHS)/occupational health and safety (OHS)/occupational safety and health (OSH) and environmental requirements and workplace procedures

2 Complete documentation

- 2.1** Vehicle defects are identified and diagnosed, and appropriate action is taken to report to relevant person/s or remedy identified defects as required by workplace procedures
- 2.2** Records of inspection are updated and recommended repairs from relevant person/s are documented in accordance with workplace procedures

Foundation Skills

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

Range of Conditions

Range is restricted to essential operating conditions and any other variables essential to the work

environment.

Non-essential conditions can be found in the Companion Volume Implementation Guide.

Unit Mapping Information

This unit replaces and is equivalent to TLIB2004 Carry out vehicle inspection.

Links

Companion Volume Implementation Guides are found in VETNet -
<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=df441c6e-213d-43e3-874c-0b3f7036d851>

Assessment Requirements for TLIB0002 Carry out vehicle inspection

Modification History

Release 1. This is 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
- carrying out vehicle inspections in accordance with workplace and manufacturer requirements including:
 - conducting engine oil checks
 - conducting coolant level checks
 - conducting hydraulic oil and other fluid checks
 - conducting globe replacement procedure
 - conducting tyre checks for wear
 - checking of gauges, warning lights, screen displays and buzzers to confirm operational status
- communicating effectively with others when reporting identified problems, faults or malfunctions
- completing documentation related to routine vehicle inspection clearly and concisely
- reading and interpreting relevant instructions, procedures, information and manuals
- reporting and rectifying identified problems, faults or malfunctions promptly
- visual checking for defects to internal and external of vehicle
- operating relevant cleaning equipment and using relevant cleaning supplies
- completing relevant workplace documentation
- applying working at height procedures during cleaning of vehicles
- applying relevant work health and safety (WHS)/occupational health and safety (OHS)/occupational safety and health (OSH), environmental requirements and workplace procedures
- using relevant Personal Protective Equipment (PPE) while cleaning.

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:

- duty of care requirements for routine vehicle inspections

- principles of systems operation on commercial vehicles
- problems that may occur during routine vehicle inspections and appropriate actions and solutions
- relevant reporting and documentation requirements for carrying out vehicle inspections
- relevant WHS/OHS/OSH and environmentally sustainable practices
- workplace procedures and manufacturer specifications for:
 - pre-operational inspection of a commercial vehicle
 - visual inspection
 - checking warning systems
 - associated equipment operation
 - function of gauges, warning lights and devices
 - In Vehicle Monitoring System (IVMS) and telematics
 - defect reporting
- safe use of vehicle cleaning supplies
- safe operation of cleaning equipment
- Safety Data Sheets (SDS) and relevant manufacturer specifications for cleaning products
- WHS/OHS/OSH and environmental requirements for waste disposal.

Assessment Conditions

As a minimum, assessors must satisfy applicable regulatory requirements, which include requirements in the Standards for Registered Training Organisations current at the time of assessment.

As a minimum, assessment must satisfy applicable regulatory requirements, which include requirements in the Standards for Registered Training Organisations current at the time of assessment.

Assessment must occur in workplace operational situations where it is appropriate to do so; where this is not appropriate, assessment must occur in simulated workplace operational situations that replicate workplace conditions.

Assessment processes and techniques must be appropriate to the language, literacy and numeracy requirements of the work being performed and the needs of the candidate.

Resources for assessment must include:

- a range of relevant exercises, case studies and/or 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>

TLIC0003 Operate LP gas tanker

Modification History

Release 2. This is the second release of this unit of competency in the TLI Transport and Logistics Training Package:

- Element 6 changed to: Check site to accept delivery
- Minor statement changes in Assessment Conditions.

Release 1. This is the first release of this unit of competency in the TLI Transport and Logistics Training Package.

Application

This unit involves the skills and knowledge required to operate a liquid petroleum (LP) gas tanker in accordance with the current Australian Dangerous Goods (ADG) Code, mass and loading regulations, and relevant state/territory road and traffic authority vehicle licence requirements and regulations for heavy vehicles.

It includes recognising the characteristics of LP gas and LP gas tankers to ensure safe transfer and transport of LP gas, conducting pre-trip inspections, supervising loading and transporting load to customer site. It also includes preparing a site to accept delivery, managing delivery, completing post-delivery activities and following emergency procedures.

An LP gas tanker is defined as any bulk road transport vehicle authorised to carry Class 2 liquid gases.

An LP gas tanker is operated with limited or minimum supervision, and with accountability and responsibility for self and others in achieving the prescribed outcomes.

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

Pre-requisite Unit

TLILIC0001 Licence to transport dangerous goods by road

Competency Field

C – Vehicle Operation

Unit Sector

Not applicable.

Elements and Performance Criteria

ELEMENTS

Elements describe the essential outcomes.

1 Recognise the characteristics of LP gas and LP gas tankers to ensure safe transfer and transport of LP gas

2 Comply with legislative and organisational requirements for safe transfer and transport of LP gas

3 Conduct pre-trip inspection

PERFORMANCE CRITERIA

Performance criteria describe the performance needed to demonstrate achievement of the element.

- 1.1** Properties of LP gas being transported are identified in accordance with emergency response documentation
- 1.2** Hazards associated with LP gas transport are clarified in accordance with emergency response documentation
- 1.3** Hazardous atmosphere zones are determined in accordance with organisational requirements
- 1.4** Functions of equipment fitted to an LP gas tanker are identified
- 1.5** Factors that cause static electricity and ways of minimising associated risks are identified in accordance with organisational requirements
- 2.1** United Nations (UN) number, product class, packaging group and any sub-risks of LP gas being transported are identified in accordance with emergency response documentation
- 2.2** Requirements for LP gas being transported are identified in accordance with the current ADG Code and legislative requirements
- 3.1** Tanker is checked to ensure dangerous goods (DG) compliance plate is attached to tanker in accordance with current ADG Code requirements
- 3.2** Tanker load transfer equipment is checked to confirm security and state of repair, and that all hoses are tested and tagged in accordance with current ADG Code requirements
- 3.3** Tanker is checked to ensure safety equipment is accessible, properly maintained, and stowed and secured in accordance with current ADG Code requirements

- 3.4 Tanker is checked to ensure personal protective equipment (PPE) is available, ready for use and meets current ADG Code requirements
 - 3.5 Tanker is checked to ensure DG placards are correct for load and are displayed in accordance with current ADG Code requirements
 - 3.6 Fire extinguisher is checked for current date and pressure gauge
 - 3.7 Shipping documentation is checked for accuracy and availability of emergency information in accordance with current ADG Code requirements
 - 3.8 Non-compliant vehicles and equipment are reported in accordance with organisational procedures
- 4 **Supervise loading**
 - 4.1 Tanker is driven into loading site in accordance with site procedures
 - 4.2 Tanker is positioned to enable loading to be carried out in accordance with site procedures without injury to people or damage to property
 - 4.3 Park brake is applied, engine is turned off and battery is isolated, as required
 - 4.4 PPE is used in accordance with site and organisational procedures
 - 4.5 Transfer equipment is checked for compatibility
 - 4.6 Loading activities are controlled within level of responsibility
 - 4.7 Emergency procedures are followed in a spill or leak during loading
 - 4.8 Strategies to minimise risks associated with static electricity are employed in accordance with organisational requirements
- 5 **Transport load to customer site**
 - 5.1 Routes are planned to avoid congested areas, tunnels or areas where people may congregate and to maximise efficiency between delivery sites
 - 5.2 Planned or prescribed routes are followed in accordance with regulatory and organisational requirements

- 5.3 Tanker is driven and manoeuvred in accordance with legal requirements, and vehicle stability and prevailing environmental conditions are considered
 - 5.4 Eco-driving techniques are applied, and courtesy and professionalism are exhibited toward other road users
 - 5.5 Action is taken to deal with traffic delays and diversions
 - 5.6 Legislative and organisational procedures are adhered to when driving, parking and leaving tanker standing, or when tanker breaks down or stops on a road
- 6 Check site to accept delivery
 - 6.1 Pre-delivery assessment is made before entering delivery site
 - 6.2 Site features that present a hazard and/or prevent delivery are rectified or reported in accordance with organisational requirements
 - 6.3 Site instructions and/or restrictions are complied with
 - 6.4 Tanker is manoeuvred and positioned to ensure product can be delivered safely and efficiently
 - 6.5 Park brake is applied, engine is turned off and battery is isolated, as required
 - 6.6 PPE is used in accordance with site and organisational procedures, and steps are taken to apply personal safety measures and to manage potential hazards
 - 6.7 Discharge area of delivery site is marked with signs and/or cones in accordance with workplace and state/territory legislative requirements
- 7 Manage delivery
 - 7.1 Visible receiving vessel and/or components are checked for damage
 - 7.2 Contents of receiving vessel/s are checked to ensure sufficient ullage exists for delivery
 - 7.3 Product type and quantity are confirmed against delivery documents
 - 7.4 Pressure gauges, valves, hoses and connections are visually checked for serviceability and leaks
 - 7.5 Vehicle and/or delivery site emergency shutdown is identified and checked in accordance with workplace

requirements

	7.6	Hoses are connected for discharging to ensure correct product is delivered into correct vessel in correct sequence
	7.7	Product is delivered in accordance with organisational and site procedures, and special delivery instructions are observed
	7.8	Emergency procedures are followed in the event of a leak during delivery
	7.9	Strategies to minimise risks associated with static electricity are employed in accordance with organisational requirements
8	Complete post-delivery operations	
	8.1	Product transfer equipment is disconnected in accordance with product type and organisational procedures
	8.2	Site is secured and restored to a clean and tidy condition in accordance with site procedures
	8.3	Delivery documentation is completed in accordance with organisational procedures
	8.4	Shipping documentation is amended to reflect changes in vehicle load
	8.5	Pre-departure inspection of tanker is conducted in accordance with organisational procedures
	8.6	Tanker is driven safely from site in accordance with site procedures
9	Follow emergency procedures	
	9.1	Incident is reported to police or fire services as soon as possible
	9.2	Incident is reported to nominated person as soon as practicable in accordance with transport emergency response plan (TERP)
	9.3	Reasonable assistance with load content is provided to authorised officer and emergency management supervisor (EMS)
	9.4	Warnings are provided to other vehicles and persons in the vicinity who may be at risk

- 9.5** Escape of gas is prevented or minimised
- 9.6** Incident is reported in accordance within legislative requirements or as nominated in the TERP

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.

Equipment fitted to an LP gas tanker must include:

- breakdown triangles
- chemical resistant gloves
- deluge system
- emergency cones
- emergency information holder
- emergency shutdown controls
- evacuation procedures
- eyewash facility
- fire alarm
- fire extinguishers
- torch

Loading and unloading sites must include at least one of the following:

- customer site
- depot
- terminal

Documentation must include:

- emergency procedure guides
- shipping documentation
- state/territory road rules
- TERP

Unit Mapping Information

This unit replaces but is not equivalent to TLIC4067A Operate LP gas tanker.

Links

Companion Volume Implementation Guides are found in VETNet -
<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=df441c6e-213d-43e3-874c-0b3f7036d851>

Assessment Requirements for TLIC0003 Operate LP gas tanker

Modification History

Release 2. This is the second release of this unit of competency in the TLI Transport and Logistics Training Package:

- Minor statement changes in Assessment Conditions.

Release 1. This is the first release of this unit of competency in the TLI Transport and Logistics Training Package.

Performance Evidence

Evidence required to demonstrate competence in this unit must be relevant to and satisfy all of the requirements of the elements, performance criteria and range of conditions on at least one occasion and include:

- applying correct placarding for product being loaded
- applying precautions and required action to minimise, control or eliminate identified hazards
- applying techniques for loading and unloading a liquid petroleum (LP) gas tanker
- communicating effectively with others
- completing relevant documentation
- identifying eco-driving techniques
- identifying volume of goods
- implementing contingency plans
- interpreting and following operational instructions and prioritising work
- making accurate estimates of product volume in loading and unloading situations
- meeting customer requirements when delivering LP gas to customer site
- modifying activities depending on operational contingencies, risk situations and environments
- monitoring and anticipating traffic hazards and taking appropriate action
- monitoring performance of vehicle, trailers and equipment, and taking appropriate action as required
- operating and adapting to differences in equipment in accordance with operating procedures
- reading and interpreting relevant instructions, procedures, information and signs
- selecting and using required personal protective equipment (PPE) conforming to industry and work health and safety (WHS)/occupational health and safety (OHS) standards
- working collaboratively with others
- working systematically with required attention to detail without injury to self or others, or damage to goods or equipment.

Knowledge Evidence

Evidence required to demonstrate competence in this unit must be relevant to and satisfy all of the requirements of the elements, performance criteria and range of conditions and include knowledge of:

- causal factors of LP gas tanker accidents and incidents
- effects of weight distribution on load behaviour and vehicle stability
- efficient driving techniques and eco-driving considerations
- factors involved in trip preparation
- factors that may cause traffic delays and diversions, and related actions that can be taken
- fatigue management strategies
- procedures to be followed in a driving emergency and in response to an emergency using a company transport emergency response plan (TERP)
- relevant dangerous goods (DG) information for operating an LP gas tanker
- relevant legislation and workplace procedures for transporting LP gas
- relevant state/territory road and traffic authority road rules, regulations, permits and licence requirements
- relevant WHS/OHS and environmental procedures
- safe delivery of LP gas to a customer site
- techniques and procedures for loading and unloading an LP gas tanker safely
- techniques to continually identify and mitigate environmental risks
- workplace documentation
- workplace driving and operational instructions.

Assessment Conditions

Assessors must hold credentials specified within the Standards for Registered Training Organisations current at the time of assessment.

Assessment must satisfy the Principles of Assessment and Rules of Evidence and all regulatory requirements included within the Standards for Registered Training Organisations current at the time of assessment.

Assessment must occur in workplace operational situations, with the exception of Element 9; due to workplace health and safety risks. Assessment of Element 9 must occur using simulations in workplace operational situations.

Practical assessment must be undertaken with an LP gas tanker that meets all industry compliance and/or licensing requirements.

Assessment 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:

- eye wash kit, fire extinguisher, torch, chemical resistant gloves, and other PPE currently used in industry
- workplace procedures, current ADG Code, emergency procedure guides, emergency response

documentation, shipping documentation and TERP.

A simulator is not suitable for final assessment of this unit of competency.

Links

Companion Volume Implementation Guides are found in VETNet -

<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=df441c6e-213d-43e3-874c-0b3f7036d851>

TLIC2002 Drive light rigid vehicle

Modification History

Release 2. This is the second release of this unit of competency in the TLI Transport and Logistics Training Package:

- Minor statement changes in Assessment Conditions.

Release 1. This is the first release of this unit of competency in the TLI Transport and Logistics Training Package.

Application

It includes systematic and efficient control of all vehicle functions, monitoring traffic and road conditions, managing vehicle condition and performance, and effectively managing hazardous situations.

Driving is performed with limited or minimum supervision, and with limited accountability and responsibility for self and others in achieving the prescribed outcomes.

Driving involves the application of routine vehicle driving principles and procedures to maintain the safety and operation of a commercial light rigid vehicle across a variety of driving contexts.

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

Pre-requisite Unit

Not applicable.

Competency Field

C – Vehicle Operation

Unit Sector

Not applicable.

Elements and Performance Criteria

ELEMENTS

PERFORMANCE CRITERIA

Elements describe the essential Performance criteria describe the performance needed to

outcomes.

demonstrate achievement of the element.

1 Drive light rigid vehicle	1.1 Light rigid vehicle is started, steered, manoeuvred, positioned and stopped in accordance with traffic regulations and manufacturer instructions
	1.2 Engine power is managed to ensure efficiency and performance and to minimise engine and transmission damage
	1.3 Driving hazards are identified and/or anticipated and avoided or controlled through defensive driving
	1.4 Light rigid vehicle is driven in reverse, maintaining visibility and achieving accurate positioning
	1.5 Light rigid vehicle is parked, shut down and secured in accordance with manufacturer specifications, traffic regulations and workplace procedures
	1.6 Appropriate procedures are followed in a driving emergency
2 Monitor traffic and road conditions	2.1 Most efficient route of travel is taken by monitoring and anticipating traffic flows and conditions, road standards and other factors likely to cause delays or route deviations
	2.2 Traffic and road conditions are constantly monitored and acted on to enable safe operation and to ensure no injury to people or damage to property, equipment, loads and facilities
3 Monitor and maintain vehicle performance	3.1 Vehicle performance is maintained through vehicle pre-operational inspections and checks
	3.2 Performance and efficiency of vehicle operation is monitored during use
	3.3 Defective or irregular performance or malfunctions are reported to appropriate authority
	3.4 Vehicle records are maintained/updated and information is processed in accordance with workplace procedures

Foundation Skills

Foundation skills essential to performance are explicit in the performance criteria of this unit of

competency.

Range of Conditions

Range is restricted to essential operating conditions and any other variables essential to the work environment.

Unit Mapping Information

This unit replaces and is equivalent to TLIC2002A Drive light rigid vehicle.

Links

Companion Volume Implementation Guides are found in VETNet -
<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=df441c6e-213d-43e3-874c-0b3f7036d851>

Assessment Requirements for TLIC2002 Drive light rigid vehicle

Modification History

Release 2. This is the second release of this unit of competency in the TLI Transport and Logistics Training Package:

- Minor statement changes in Assessment Conditions.

Release 1. This is the first release of this unit of competency in the TLI Transport and Logistics Training Package.

Performance Evidence

Evidence required to demonstrate competence in this unit must be relevant to and satisfy all of the requirements of the elements and performance criteria on at least one occasion and include:

- applying precautions and required action to minimise, control or eliminate identified hazards
- carrying out pre-operational checks on vehicle
- completing relevant documentation
- demonstrating low-risk driving behaviours
- modifying activities depending on operational contingencies, risk situations and environments
- monitoring and anticipating traffic hazards and taking appropriate action
- reading and interpreting relevant instructions, procedures, information and signs
- reporting and/or rectifying identified problems, faults or malfunctions promptly in accordance with regulatory requirements and workplace procedures.

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:

- causes and effects of fatigue on drivers
- differences between transmission types
- driving hazards and related defensive driving techniques
- efficient driving techniques
- engine power management and safe driving strategies
- factors that increase fatigue-related accidents
- factors that may cause traffic delays and diversions and related actions that can be taken
- fatigue management strategies including on-road techniques
- lifestyles that promote effective long-term fatigue management
- light rigid vehicle controls, instruments and indicators and their use
- light rigid vehicle handling procedures
- map reading and road navigation techniques including using a global positioning system

(GPS) device, as required

- pre-operational checks carried out on vehicle and related actions
- principles of stress management when driving a vehicle
- procedures to be followed in a driving emergency
- relevant state/territory road and traffic authority road rules, regulations, permits and licence requirements
- relevant work health and safety (WHS)/occupational health and safety (OHS) and environmental procedures and regulations
- workplace driving and operational instructions.

Assessment Conditions

Assessors must hold credentials specified within the Standards for Registered Training Organisations current at the time of assessment.

Assessment must satisfy the Principles of Assessment and Rules of Evidence and all regulatory requirements included within the Standards for Registered Training Organisations current at the time of assessment.

Assessment must occur in workplace operational situations where it is appropriate to do so; where this is not appropriate, assessment must occur in simulated workplace operational situations that replicate workplace conditions.

Assessment processes and techniques must be appropriate to the language, literacy and numeracy requirements of the work being performed and the needs of the candidate.

Assessment of this unit may be undertaken within a licensing examination conducted by, or under the authority of, the relevant state/territory road and traffic authority.

Resources for assessment must include:

- a range of relevant exercises, case studies and/or simulations
- relevant materials, tools, equipment and personal protective equipment (PPE) currently used in industry
- 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>

TLIC2025 Operate four wheel drive vehicle

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 four wheel drive vehicle safely in a range of conditions in accordance with the relevant state/territory legislated roads and traffic licence requirements.

It includes driving a four wheel drive vehicle on roads, traversing gradients, ascending and descending steep gradients, and operating in rugged terrain. It also includes using vehicle equipment/controls and completing pre- and post-operational checks.

Recognised driver's licence or provisional car licence must be held prior to commencing this unit of competency.

Driving involves the application of four wheel drive vehicle operating principles and procedures to maintain the safety and operation of a four wheel drive vehicle across a variety of on-road and off-road contexts.

Driving is performed with limited supervision, and with duty of care responsibility for self and others in achieving the prescribed outcomes.

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

Pre-requisite Unit

Not applicable.

Competency Field

C – Vehicle Operation

Unit Sector

Not applicable.

Elements and Performance Criteria

ELEMENTS

Elements describe the essential outcomes.

PERFORMANCE CRITERIA

Performance criteria describe the performance needed to demonstrate achievement of the element.

1 Operate four wheel drive vehicles on roads

- 1.1 Pre-start checks of vehicle and equipment are carried out in accordance with manufacturer specifications and roadworthy requirements
- 1.2 Job hazards are identified and required action is taken to minimise, control or eliminate identified hazards
- 1.3 Tyres are checked for pressure suitable for terrain and/or changed in accordance with manufacturer and workplace procedures
- 1.4 Vehicle fuel, water and any ancillary equipment are checked before starting vehicle journey in accordance with manufacturer and workplace procedures
- 1.5 Loads are secured in accordance with workplace and legislative requirements
- 1.6 Vehicle is driven on-road and off-road in accordance with legislative and workplace requirements, at appropriate operating speeds for road or track conditions and hazards
- 1.7 Vehicle equipment/controls are set and operated in accordance with manufacturer instructions for operation in surrounding terrain
- 1.8 Road conditions are constantly monitored, negotiated and appropriate operations and control techniques are used to ensure safe vehicle operation and no injury to people or damage to vehicle, tracks or loads is sustained
- 1.9 Vehicle is parked and shut down in accordance with workplace and manufacturer requirements

2 Operate vehicle on, or across a gradient

- 2.1 Intended vehicle path is inspected prior to negotiating gradient
- 2.2 Loads are secured in accordance with workplace and legislative requirements
- 2.3 Appropriate gear and/or range are selected and engine revolutions are maintained to ensure constant traction

- 2.4 Vehicle is driven on-road and off-road in accordance with legislative and workplace requirements at appropriate speeds for conditions and gradient hazards
- 2.5 Vehicle equipment/controls are set and operated in accordance with manufacturer instructions for operation in, on or across a gradient
- 2.6 Gradient conditions are constantly monitored, and appropriate operations and control techniques are used to ensure safe vehicle operation and no injury to people or damage to vehicle, tracks or loads is sustained
- 3 Operate vehicle ascending a steep gradient**
 - 3.1 Intended vehicle path is inspected prior to negotiating ascent
 - 3.2 Appropriate gear and/or range are selected to ascend grade, and engine revolutions are maintained to ensure constant traction
 - 3.3 Vehicle equipment/controls are set and operated in accordance with manufacturer instructions for operation while ascending a steep gradient
 - 3.4 Stall recovery techniques are applied in accordance with manufacturer and workplace procedures
 - 3.5 Ascent conditions are constantly monitored, and appropriate operations and control techniques are used to ensure safe vehicle operation and no injury to people or damage to vehicle, tracks or loads is sustained
- 4 Operate vehicle descending a steep gradient**
 - 4.1 Intended vehicle path is inspected prior to negotiating gradient
 - 4.2 Appropriate gear and/or range are selected to descend grade, and engine revolutions are maintained to ensure constant traction
 - 4.3 Vehicle equipment/controls are set and operated in accordance with manufacturer instructions for operation while descending a steep gradient
 - 4.4 Stall recovery techniques are applied in accordance with manufacturer and workplace procedures
 - 4.5 Descent conditions are constantly monitored, and appropriate operations and control techniques are used to ensure safe vehicle operation and no injury to people or damage to vehicle, tracks or loads is sustained

5 Operate vehicle in rugged terrain	5.1 Intended vehicle path is inspected prior to negotiating rugged terrain 5.2 Appropriate gear and/or range are selected to negotiate rugged terrain and engine revolutions are maintained to ensure constant traction 5.3 Vehicle equipment/controls are set and operated in accordance with manufacturer instructions for operation in surrounding terrain 5.4 Vehicle chains are fitted in accordance with manufacturer instructions and environmental conditions, as required 5.5 Vehicle load is inspected, positioned and secured to maximise traction for four wheel driving 5.6 Rugged conditions are constantly monitored, and appropriate operations and control techniques are used to ensure safe vehicle operation and no injury to people or damage to vehicle, tracks or loads is sustained
6 Complete operations	6.1 Vehicle is parked and shut down in accordance with workplace and manufacturer requirements 6.2 Faults or malfunctions are corrected and/or reported in accordance with manufacturer and workplace requirements 6.3 Vehicle and equipment are cleaned and stored after use in accordance with workplace requirements 6.4 Documentation and journey reports are completed in accordance with workplace procedures

Foundation Skills

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

Range of Conditions

Range is restricted to essential operating conditions and any other variables essential to the work environment.

Non-essential conditions can be found in the Companion Volume Implementation Guide.

Unit Mapping Information

This unit replaces and is equivalent to TLIC2025A Operate four wheel drive vehicle.

Links

Companion Volume implementation guides are found in VETNet -
<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=df441c6e-213d-43e3-874c-0b3f7036d851>

Assessment Requirements for TLIC2025 Operate four wheel drive vehicle

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
- cleaning and storing vehicles and equipment
- communicating effectively with others
- completing relevant documentation
- conducting pre-start checks
- demonstrating low-risk driving behaviours
- identifying and correcting minor operational faults
- identifying job hazards and taking required action
- implementing contingency plans
- interpreting and following operational instructions and prioritising work
- modifying activities depending on operational contingencies, risk situations and environments
- reporting and/or rectifying identified problems, faults or malfunctions promptly, in accordance with regulatory requirements and workplace procedures
- reading and interpreting relevant instructions, procedures, information and signs
- using and adjusting vehicle equipment/controls as required:
 - brakes
 - electronic traction control
 - freewheeling hubs
 - gears/range
 - heating and cooling systems
 - jacks
 - tyres
- working systematically with required attention to detail without injury to self or others, or damage to goods or equipment.

Knowledge Evidence

Evidence required to demonstrate competence in this unit must be relevant to and satisfy all of the requirements of the elements and performance criteria and include knowledge of:

- documentation and record keeping requirements
- effect of hard surface driving (such as transmission wind up) on a 4x4 system
- effect of loads while negotiating a gradient
- effect on centre of gravity of changing fluid loads
- efficient driving techniques and safe driving strategies
- environmental impact of 4x4 driving
- hazards and risks associated with traversing cross gradients
- hazards that may exist when operating a four wheel drive vehicle in on-road and off-road situations, and action to minimise, control or eliminate identified hazards
- low risk driving behaviours:
 - creating and maintaining crash avoidance space
 - protecting crash avoidance space
 - road rules and directions
 - space and time management
- pre- and post-operational checks and related action
- problems that may occur when operating a four wheel drive vehicle, and action that can be taken to report or resolve the problems
- relevant land management procedures and regulations
- relevant state/territory road traffic authority road rules, regulations, permit and licence requirements
- relevant work health and safety (WHS)/occupational health and safety (OHS) and environmental procedures and regulations
- vehicle equipment/controls, instruments and indicators, and their use
- vehicle handling procedures and techniques for a range of road and track conditions
- workplace procedures for operating a four wheel drive vehicle in both on-road and off-road situations.

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 in a four wheel drive vehicle typical of that used in industry.

Assessment 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.

A simulator/online assessment is not suitable for the final assessment of this unit of competency.

Links

Companion Volume implementation guides are found in VETNet -

<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=df441c6e-213d-43e3-874c-0b3f7036d851>

TLIC3003 Drive medium rigid vehicle

Modification History

Release 2. This is the second release of this unit of competency in the TLI Transport and Logistics Training Package:

- Minor statement changes in Assessment Conditions.

Release 1. This is the first release of this unit of competency in the TLI Transport and Logistics Training Package.

Application

This unit involves the skills and knowledge required to drive a medium rigid vehicle safely in accordance with the licence requirements and regulations of the relevant state/territory road and traffic authority pertaining to medium rigid vehicles.

It includes systematically and efficiently controlling vehicle functions, monitoring traffic and road conditions, managing vehicle condition and performance, and effectively managing hazardous situations.

Types of vehicles include all medium rigid vehicles, for example, any 2-axle rigid vehicle, including trucks and buses greater than 8 tonnes gross vehicle mass (GVM).

Driving is performed with limited or minimum supervision, within duty of care responsibility for self and others in achieving the prescribed outcomes.

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

Pre-requisite Unit

Not applicable.

Competency Field

C – Vehicle Operation

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 Drive medium rigid vehicle

- 1.1** Medium rigid vehicle is started, steered, manoeuvred, positioned and stopped in accordance with traffic regulations and manufacturer instructions
- 1.2** Engine power is managed to ensure efficiency and performance and to minimise engine and transmission damage
- 1.3** Engine operation is maintained within manufacturer specified torque range and temperature through effective transmission use
- 1.4** Braking system of medium rigid vehicle is managed and operated to ensure effective control of vehicle under all conditions
- 1.5** Driving hazards are identified and/or anticipated and avoided or controlled through defensive driving
- 1.6** Medium rigid vehicle is driven in reverse, maintaining visibility and achieving accurate positioning
- 1.7** Medium rigid vehicle is parked, shut down and secured in accordance with manufacturer specifications, traffic regulations and workplace procedures
- 1.8** Appropriate procedures are followed in a driving emergency

2 Monitor traffic and road conditions

- 2.1** Most efficient travel route is taken through monitoring and anticipating traffic flows and conditions, road standards and other factors likely to cause delays or route deviations
- 2.2** Traffic and road conditions are constantly monitored and acted on to enable safe operation and to ensure no injury to people or damage to property, equipment, loads and facilities

3 Monitor and maintain vehicle performance

- 3.1** Vehicle performance is maintained through pre-operational vehicle inspections and checks
- 3.2** Performance and efficiency of vehicle operation are monitored during use
- 3.3** Defective or irregular performance or malfunctions are

reported to appropriate authority

- 3.4** Vehicle records are maintained/updated and information is processed in accordance with workplace procedures

Foundation Skills

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

Range of Conditions

Range is restricted to essential operating conditions and any other variables essential to the work environment.

Unit Mapping Information

This unit replaces and is equivalent to TLIC3003A Drive medium rigid vehicle.

Links

Companion Volume Implementation Guides are found in VETNet -
<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=df441c6e-213d-43e3-874c-0b3f7036d851>

Assessment Requirements for TLIC3003 Drive medium rigid vehicle

Modification History

Release 2. This is the second release of this unit of competency in the TLI Transport and Logistics Training Package:

- Minor statement changes in Assessment Conditions.

Release 1. This is the first release of this unit of competency in the TLI Transport and Logistics Training Package.

Performance Evidence

Evidence required to demonstrate competence in this unit must be relevant to and satisfy all of the requirements of the elements and performance criteria on at least one occasion and include:

- applying precautions and required actions to minimise, control or eliminate identified hazards
- carrying out pre-operational checks
- checking and replenishing fluids and carrying out lubrication processes
- completing relevant documentation
- monitoring and anticipating traffic hazards and taking appropriate action
- monitoring equipment performance
- reading and interpreting relevant instructions, procedures, information and signs
- reporting and/or rectifying identified problems, faults or malfunctions 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:

- causes and effects of fatigue on drivers
- differences between transmission types
- driving hazards and related defensive driving techniques
- efficient driving techniques
- engine power management and safe driving strategies
- factors that increase fatigue-related accidents
- factors that may cause traffic delays and diversions, and related actions that can be taken by a driver
- fatigue management strategies including on-road techniques
- lifestyles that promote effective long-term management of fatigue
- map reading and road navigation techniques including the use of a global positioning system

(GPS) device

- medium rigid vehicle controls, instruments and indicators, and their use
- medium rigid vehicle handling procedures
- pre-operational checks carried out on vehicle and related actions
- principles of operation of air brakes and procedures for their use
- principles of stress management when driving a vehicle
- procedures to be followed in a driving emergency
- relevant work health and safety (WHS)/occupational health and safety (OHS) and environmental procedures and regulations
- relevant state/territory road traffic authority road rules, regulations, permits and licence requirements
- workplace driving and operational instructions.

Assessment Conditions

Assessors must hold credentials specified within the Standards for Registered Training Organisations current at the time of assessment.

Assessment must satisfy the Principles of Assessment and Rules of Evidence and all regulatory requirements included within the Standards for Registered Training Organisations current at the time of assessment.

Assessment must occur in workplace operational situations where it is appropriate to do so; where this is not appropriate, assessment must occur in simulated workplace operational situations that replicate workplace conditions.

Assessment processes and techniques must be appropriate to the language, literacy and numeracy requirements of the work being performed and the needs of the candidate.

Assessment of this unit may be undertaken within a licensing examination conducted by, or under the authority of, the relevant state/territory road traffic authority.

Resources for assessment must include:

- a range of relevant exercises, case studies and/or simulations
- relevant and appropriate materials, tools, equipment and personal protective equipment (PPE) currently used in industry
- applicable documentation including 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>

TLIC3004 Drive heavy rigid vehicle

Modification History

Release 2. This is the second release of this unit of competency in the TLI Transport and Logistics Training Package:

- Minor statement changes in Assessment Conditions.

Release 1. This is the first release of this unit of competency in the TLI Transport and Logistics Training Package.

Application

This unit involves the skills and knowledge required to drive a heavy rigid vehicle safely in compliance with relevant state/territory road and traffic authority licence requirements and regulations including road rules for heavy rigid vehicles.

It includes maintaining systematic and efficient control of all vehicle functions, monitoring traffic and road conditions, managing vehicle condition and performance, and effectively managing hazardous situations.

Driving is performed with limited or minimum supervision, and with duty of care responsibility for self and others in achieving the prescribed outcomes.

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

Pre-requisite Unit

Not applicable.

Competency Field

C – Vehicle Operation

Unit Sector

Not applicable.

Elements and Performance Criteria

ELEMENTS

Elements describe the essential outcomes.

PERFORMANCE CRITERIA

Performance criteria describe the performance needed to demonstrate achievement of the element.

1 Drive heavy rigid vehicle	1.1 Heavy rigid vehicle is started, steered, manoeuvred, positioned and stopped in accordance with traffic regulations and manufacturer instructions 1.2 Engine power is managed to ensure efficiency and performance, and to minimise engine and gear damage 1.3 Engine operation is maintained within manufacturer specified torque range and temperature through effective gear selection and smooth transition in gear changes 1.4 Heavy rigid vehicle braking system is managed and operated to ensure effective vehicle control under all conditions 1.5 Driving hazards are identified and/or anticipated and avoided or controlled through defensive driving 1.6 Heavy rigid vehicle is driven in reverse, maintaining visibility and achieving accurate positioning 1.7 Heavy rigid vehicle is parked, shut down and secured in accordance with manufacturer specifications, traffic regulations and workplace procedures 1.8 Over width and overweight permit applications are completed and submitted in accordance with relevant regulatory requirements, as required 1.9 Appropriate procedures are followed in a driving emergency
2 Monitor traffic and road conditions	2.1 Most efficient route of travel is taken by monitoring and anticipating traffic flows and conditions, road standards and other factors likely to cause delays or route deviations 2.2 Traffic and road conditions are constantly monitored and acted on to enable safe operation and to ensure no injury to people or damage to property, equipment loads and facilities
3 Monitor and maintain vehicle performance	3.1 Vehicle performance is maintained through pre-operational inspections and vehicle checks 3.2 Performance and efficiency of vehicle operation is monitored during use 3.3 Defective or irregular performance or malfunctions are

reported to appropriate authority

- 3.4** Vehicle records are maintained/updated and information is processed in accordance with workplace procedures

Foundation Skills

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

Range of Conditions

Range is restricted to essential operating conditions and any other variables essential to the work environment.

Unit Mapping Information

This unit replaces and is equivalent to TLIC3004A Drive heavy rigid vehicle.

Links

Companion Volume Implementation Guides are found in VETNet -
<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=df441c6e-213d-43e3-874c-0b3f7036d851>

Assessment Requirements for TLIC3004 Drive heavy rigid vehicle

Modification History

Release 2. This is the second release of this unit of competency in the TLI Transport and Logistics Training Package:

- Minor statement changes in Assessment Conditions.

Release 1. This is the first release of this unit of competency in the TLI Transport and Logistics Training Package.

Performance Evidence

Evidence required to demonstrate competence in this unit must be relevant to and satisfy all of the requirements of the elements and performance criteria on at least one occasion and include:

- applying precautions and required actions to minimise, control or eliminate identified hazards
- carrying out pre-operational checks
- completing relevant documentation
- demonstrating low-risk driving behaviours
- monitoring and anticipating traffic hazards and taking appropriate actions
- monitoring performance of vehicle and its equipment, and taking appropriate action, as required
- operating and adapting to differences in equipment in accordance with operating procedures
- reading and interpreting relevant instructions, procedures, information and signs
- reporting and/or rectifying identified problems, faults or malfunctions promptly in accordance with regulatory requirements and workplace procedures.

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:

- causes and effects of fatigue on drivers
- differences between transmission types
- driving hazards and related defensive driving techniques
- efficient driving techniques
- engine power management and safe driving strategies
- factors that increase fatigue-related accidents
- factors that may cause traffic delays and diversions, and related actions that can be taken
- fatigue management strategies and on-road techniques
- heavy rigid vehicle controls, instruments and indicators, and their use
- heavy rigid vehicle handling procedures
- lifestyles that promote effective long-term fatigue management

- pre-operational checks carried out on heavy rigid vehicle and related actions
- principles of operation of air brakes and procedures for their use
- principles of stress management when driving a vehicle
- procedures to be followed in a driving emergency
- relevant state/territory road and traffic authority road rules, regulations, permits and licence requirements
- relevant work health and safety (WHS)/occupational health and safety (OHS) and environmental procedures and regulations
- workplace driving and operational instructions.

Assessment Conditions

Assessors must hold credentials specified within the Standards for Registered Training Organisations current at the time of assessment.

Assessment must satisfy the Principles of Assessment and Rules of Evidence and all regulatory requirements included within the Standards for Registered Training Organisations current at the time of assessment.

Assessment must occur in workplace operational situations where it is appropriate to do so; where this is not appropriate, assessment must occur in simulated workplace operational situations that replicate workplace conditions.

Assessment processes and techniques must be appropriate to the language, literacy and numeracy requirements of the work being performed and the needs of the candidate.

Assessment of this unit may be undertaken within a licensing examination conducted by, or under the authority of, the relevant state/territory road and traffic authority.

Resources for assessment must include:

- a range of relevant exercises, case studies and/or simulations
- relevant materials, tools, equipment and personal protective equipment (PPE) currently used in industry
- 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>

TLIC3005 Drive heavy combination vehicle

Modification History

Release 2. This is the second release of this unit of competency in the TLI Transport and Logistics Training Package:

- Minor statement changes in Assessment Conditions.

Release 1. This is the first release of this unit of competency in the TLI Transport and Logistics Training Package.

Application

This unit involves the skills and knowledge required to drive a heavy combination vehicle safely.

It includes maintaining systematic and efficient control of all vehicle functions, monitoring traffic and road conditions, managing vehicle condition and performance, coupling and uncoupling a trailer, and effectively managing hazardous situations.

Driving must be carried out in accordance with relevant state/territory roads and traffic authority licence requirements and regulations for heavy combination vehicles.

Driving is performed with limited supervision, and duty of care responsibility for self and others in achieving the prescribed outcomes.

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

Pre-requisite Unit

Not applicable.

Competency Field

C – Vehicle Operation

Unit Sector

Not applicable.

Elements and Performance Criteria

ELEMENTS

Elements describe the essential outcomes.

1 Drive heavy combination vehicle

PERFORMANCE CRITERIA

Performance criteria describe the performance needed to demonstrate achievement of the element.

- 1.1** Heavy combination vehicle is started, steered, manoeuvred, positioned and stopped in accordance with traffic regulations and manufacturer instructions
 - 1.2** Engine power is managed to ensure efficiency and performance, and to minimise engine and gear damage
 - 1.3** Engine operation is maintained within the manufacturer specified torque range and temperature, through effective gear selection and smooth transition in gear changes
 - 1.4** Heavy combination vehicle braking system is managed and operated to ensure effective vehicle control under all conditions
 - 1.5** Driving hazards are identified and/or anticipated and avoided or controlled through defensive driving
 - 1.6** Heavy combination vehicle is driven in reverse, maintaining visibility and achieving accurate positioning
 - 1.7** Heavy combination vehicle is parked, uncoupled, shut down and secured in accordance with manufacturer specifications, traffic regulations and workplace procedures
 - 1.8** Over width and overweight permit applications are completed and submitted in accordance with relevant regulatory requirements, as required
 - 1.9** Appropriate signage and lights are checked for operational effectiveness and for conformity to prescribed traffic regulations
 - 1.10** Appropriate procedures are followed in a driving emergency
-
- 2.1** Most efficient route of travel is taken by monitoring and anticipating traffic flows and conditions, road standards and other factors likely to cause delays or

2 Monitor traffic and road conditions

- route deviations
- 2.2** Traffic and road conditions are constantly monitored and acted on to enable safe operation and to ensure no injury to people or damage to property, equipment loads and facilities
- 3 Monitor and maintain vehicle performance**
- 3.1** Vehicle performance is maintained through pre-operational inspections and vehicle checks
- 3.2** Prime mover and trailer are aligned and coupled in accordance with manufacturer instructions and workplace procedures
- 3.3** Coupled vehicle is checked and tested to ensure it is correctly secured and to confirm it is fully operational
- 3.4** Performance and efficiency of vehicle operation is monitored during use
- 3.5** Defective or irregular performance or malfunctions are reported to appropriate authority
- 3.6** Vehicle records are maintained/updated and information is processed in accordance with workplace procedures

Foundation Skills

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

Range of Conditions

Range is restricted to essential operating conditions and any other variables essential to the work environment.

Non-essential conditions can be found in the Companion Volume Implementation Guide.

Unit Mapping Information

This unit replaces and is equivalent to TLIC3005A Drive heavy combination vehicle.

Links

Companion Volume Implementation Guides are found in VETNet -
<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=df441c6e-213d-43e3-874c-0b3f7036d851>

Assessment Requirements for TLIC3005 Drive heavy combination vehicle

Modification History

Release 2. This is the second release of this unit of competency in the TLI Transport and Logistics Training Package:

- Minor statement changes in Assessment Conditions.

Release 1. This is the first release of this unit of competency in the TLI Transport and Logistics Training Package.

Performance Evidence

Evidence required to demonstrate competence in this unit must be relevant to and satisfy all of the requirements of the elements and performance criteria on at least one occasion and include:

- applying map reading and road navigation techniques
- applying precautions and required actions to minimise, control or eliminate identified hazards
- checking and replenishing fluids and carrying out lubrication processes
- completing relevant documentation
- demonstrating low-risk driving behaviours
- monitoring and anticipating traffic hazards and taking appropriate action
- monitoring performance of vehicle, trailers and equipment, and taking appropriate action as required
- reading and interpreting relevant instructions, procedures, information and signs
- reporting and/or rectifying identified problems, faults or malfunctions promptly in accordance with regulatory requirements and workplace procedures.

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:

- causes and effects of fatigue on drivers
- differences between transmission types
- driving hazards and related defensive driving techniques
- efficient driving techniques
- engine power management and safe driving strategies
- factors that increase fatigue-related accidents
- factors that may cause traffic delays and diversions, and related actions that can be taken
- fatigue management strategies including on-road techniques
- heavy combination vehicle controls, instruments and indicators, and their use

- heavy combination vehicle handling procedures
- lifestyles that promote effective long-term fatigue management
- map reading and navigation of vehicle and related action
- pre-operational checks carried out on heavy combination vehicle and related actions
- principles of operation of air brakes and procedures for their use
- principles of stress management when driving a vehicle
- procedures to be followed in a driving emergency
- relevant state/territory road and traffic authority road rules, regulations, permits and licence requirements
- relevant work health and safety (WHS)/occupational health and safety (OHS) and environmental procedures and regulations
- workplace driving and operational instructions.

Assessment Conditions

Assessors must hold credentials specified within the Standards for Registered Training Organisations current at the time of assessment.

Assessment must satisfy the Principles of Assessment and Rules of Evidence and all regulatory requirements included within the Standards for Registered Training Organisations current at the time of assessment.

Assessment must occur in workplace operational situations where it is appropriate to do so; where this is not appropriate, assessment must occur in simulated workplace operational situations that replicate workplace conditions.

Assessment processes and techniques must be appropriate to the language, literacy and numeracy requirements of the work being performed and the needs of the candidate.

Assessment of this unit may be undertaken within a licensing examination conducted, by or under the authority of, the relevant state/territory road and traffic authority.

Resources for assessment must include:

- a range of relevant exercises, case studies and/or simulations
- relevant materials, tools, equipment and personal protective equipment (PPE) currently used in industry
- 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>

TLIC4006 Drive multi-combination vehicle

Modification History

Release 2. This is the second release of this unit of competency in the TLI Transport and Logistics Training Package:

- Minor statement changes in Assessment Conditions.

Release 1. This is the first release of this unit of competency in the TLI Transport and Logistics Training Package.

Application

This unit involves the skills and knowledge required to drive a multi-combination vehicle safely, including maintaining systematic and efficient control of all vehicle functions, coupling and uncoupling dollies, monitoring traffic and road conditions, managing vehicle condition and performance, and effectively managing hazardous situations.

Driving must be carried out in accordance with relevant state/territory road and traffic authority licence requirements and regulations for multi-combination vehicles.

Driving is performed with limited supervision, and duty of care responsibility for self and others in achieving the prescribed outcomes.

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

Pre-requisite Unit

Not applicable.

Competency Field

C – Vehicle Operation

Unit Sector

Not applicable.

Elements and Performance Criteria

ELEMENTS

Elements describe the essential outcomes.

PERFORMANCE CRITERIA

Performance criteria describe the performance needed to demonstrate achievement of the element.

1 Drive multi-combination vehicle	1.1 Multi-combination vehicle is started, steered, manoeuvred, positioned and stopped in accordance with traffic regulations and manufacturer instructions
	1.2 Engine power is managed to ensure efficiency and performance, and to minimise engine and transmission damage
	1.3 Multi-combination vehicle braking system is managed and operated to ensure effective control of vehicle under all conditions
	1.4 Driving hazards are identified and/or anticipated and avoided or controlled through defensive driving
	1.5 Multi-combination vehicle is driven in reverse, maintaining visibility and achieving accurate positioning
	1.6 Multi-combination vehicle is parked, shut down, uncoupled and secured in accordance with manufacturer specifications, traffic regulations and workplace procedures
	1.7 Appropriate signage and lights are checked for operational effectiveness and for conformity to prescribed traffic regulations
	1.8 Appropriate procedures are followed in a driving emergency
2 Monitor traffic and road conditions	2.1 Most efficient and permissible route of travel is taken by monitoring and anticipating traffic flows and conditions, road standards and other factors likely to cause delays or route deviations
	2.2 Traffic and road conditions are constantly monitored and acted on to enable safe operation and to ensure no injury to people or damage to property, equipment, loads and facilities
3 Monitor and maintain vehicle performance	3.1 Vehicle performance is maintained through pre-operational inspections and vehicle checks
	3.2 Prime mover, dollies and trailer are aligned and coupled in proper sequence in accordance with manufacturer instructions and workplace procedures
	3.3 Coupled vehicle is checked and tested to ensure it is correctly secured and to confirm it is fully operational

- 3.4 Performance and efficiency of vehicle operation is monitored during use
- 3.5 Defective or irregular performance or malfunctions are reported to appropriate authority
- 3.6 Vehicle records are maintained/updated and information is processed in accordance with workplace procedures

Foundation Skills

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

Range of Conditions

Range is restricted to essential operating conditions and any other variables essential to the work environment.

Unit Mapping Information

This unit replaces and is equivalent to TLIC4006A Drive multi-combination vehicle.

Links

Companion Volume Implementation Guides are found in VETNet -
<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=df441c6e-213d-43e3-874c-0b3f7036d851>

Assessment Requirements for TLIC4006 Drive multi-combination vehicle

Modification History

Release 2. This is the second release of this unit of competency in the TLI Transport and Logistics Training Package:

- Minor statement changes in Assessment Conditions.

Release 1. This is the first release of this unit of competency in the TLI Transport and Logistics Training Package.

Performance Evidence

Evidence required to demonstrate competence in this unit must be relevant to and satisfy all of the requirements of the elements and performance criteria on at least one occasion and include:

- applying precautions and required action to minimise, control or eliminate identified hazards
- checking and replenishing fluids and carrying out lubrication processes
- completing relevant documentation
- monitoring and anticipating traffic hazards and taking appropriate action
- monitoring performance of vehicle, its trailers and its equipment and taking appropriate action as required
- operating and adapting to differences in equipment in accordance with operating procedures
- reading and interpreting relevant instructions, procedures, information and signs
- reporting and/or rectifying identified problems, faults or malfunctions promptly in accordance with regulatory requirements and workplace procedures.

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:

- causes and effects of fatigue on drivers
- differences between transmission types
- driving hazards and related defensive driving techniques
- efficient driving techniques
- engine power management and safe driving strategies
- factors that increase fatigue-related accidents
- factors that may cause traffic delays and diversions and related actions that can be taken
- fatigue management strategies including on-road techniques
- lifestyles that promote effective long-term fatigue management
- map reading and road navigation techniques

- multi-combination vehicle controls, instruments and indicators, and their use
- multi-combination vehicle handling procedures
- pre-operational checks carried out on multi-combination vehicle and related actions
- principles of operation of air brakes and procedures for their use
- principles of stress management when driving a vehicle
- relevant state/territory road and traffic authority road rules, regulations, permits and licence requirements
- relevant work health and safety (WHS)/occupational health and safety (OHS) and environmental procedures and regulations
- workplace driving and operational instructions.

Assessment Conditions

Assessors must hold credentials specified within the Standards for Registered Training Organisations current at the time of assessment.

Assessment must satisfy the Principles of Assessment and Rules of Evidence and all regulatory requirements included within the Standards for Registered Training Organisations current at the time of assessment.

Assessment must occur in workplace operational situations where it is appropriate to do so; where this is not appropriate, assessment must occur in simulated workplace operational situations that replicate workplace conditions.

Assessment processes and techniques must be appropriate to the language, literacy and numeracy requirements of the work being performed and the needs of the candidate.

Assessment of this unit may be undertaken within a licensing examination conducted by, or under the authority of, the relevant state/territory road and traffic authority.

Resources for assessment include:

- a range of relevant exercises, case studies and/or simulations
- relevant materials, tools, equipment and personal protective equipment (PPE) currently used in industry
- applicable documentation including workplace procedures, regulations, codes of practice and operation manuals.

Links

Companion Volume Implementation Guides are found in VETNet -
<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=df441c6e-213d-43e3-874c-0b3f7036d851>

TLID0012 Operate a vehicle-mounted loading crane

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 vehicle-mounted loading crane to shift loads with a capacity of less than 10 metre tonnes.

It includes preparing, positioning and stabilising a vehicle-mounted crane, operating a vehicle-mounted crane. It also includes monitoring lift conditions, packing up a vehicle-mounted crane after operations, and completing all required job records.

Work is performed under general supervision. It involves the application of routine principles and procedures when operating a vehicle-mounted loading crane in a variety of operational contexts.

Work must be carried out in accordance with the relevant state/territory authority licence/permit requirements and regulations pertaining to vehicle-mounted loading cranes.

Pre-requisite Unit

Not applicable.

Competency Field

D – Load Handling.

Unit Sector

Rail sector.

Elements and Performance Criteria

ELEMENTS

Elements describe the essential outcomes.

1 Prepare work for current working conditions 1.1

PERFORMANCE CRITERIA

Performance criteria describe the performance needed to demonstrate achievement of the element.

Task requirements are identified from work orders, job plan or equivalent and confirmed with relevant people in

- accordance with workplace procedures
- 1.2 Hazards are identified, risks assessed and control measures implemented
 - 1.3 Traffic flow and work area conditions are assessed and adjusted to ensure safe operation
 - 1.4 Load characteristics are taken into account to ensure appropriate attachments/gear are used to move load in accordance with lift plan and workplace procedures
 - 1.5 Working load limit (WLL) are determined
 - 1.6 Occurrences in work area that may impact on safety and efficiency of operations are reported to relevant personnel in accordance with workplace procedures
- 2 Position and stabilise vehicle-mounted crane**
- 2.1 Vehicle-mounted loading crane is driven to position as specified in job plan to ensure safe operation in accordance with applicable Australian Standards, codes of practice, manufacturer specifications, and relevant regulatory and local government requirements
 - 2.2 Site inspection is undertaken, including checking ground to ensure it is firm enough to bear load to be taken, in accordance with workplace procedures
 - 2.3 Barriers, fencing, temporary boundaries and signage are used, as required, to isolate working area in accordance with safe working practice and lift plan requirements
 - 2.4 Appropriate plates or packing are correctly used to adequately distribute load
 - 2.5 Outriggers and stabilisers are correctly deployed and positioned in accordance with manufacturer instructions, appropriate Australian Standard and other relevant statutory regulations or local authority requirements
 - 2.6 Outrigger packing is checked for adequacy prior to and after load is taken
- 3 Operate vehicle-mounted crane**
- 3.1 Planned hazard risk control strategies are implemented in accordance with lift plan and workplace procedures
 - 3.2 Required signals are correctly given, interpreted and followed in accordance with appropriate Australian Standards

- 3.3 Load mass is assessed and correlated with crane lifting capacity throughout proposed radii of operation
 - 3.4 Appropriate lifting gear is selected and load is secured
 - 3.5 Load is hoisted and lowered into position using crane movements in accordance with appropriate Australian Standard
 - 3.6 Vehicle-mounted loading crane controls are operated smoothly
 - 3.7 Vehicle-mounted loading crane is shut down and secured during periods of non-operation in accordance with manufacturer specifications and workplace procedures
- 4 **Monitor lift conditions**
 - 4.1 Load is constantly monitored to ensure load and structural stability
 - 4.2 Conditions that may affect continuing stability of crane are identified and monitored
 - 4.3 Unplanned situations are responded to in accordance with workplace procedures in a manner that minimises risk to personnel and equipment
 - 4.4 Advice is sought from supervisor where there is doubt about correct response to unanticipated conditions or conflict with customer request
 - 4.5 Supervisor/allocator is advised of concerns about completing job within timeframe
 - 4.6 Shutdown procedures are implemented in an emergency in accordance with manufacturer instructions
 - 4.7 Relevant motion locks and brakes are applied
 - 4.8 Vehicle-mounted loading crane is shut down using correct sequence of procedures in accordance with manufacturer specifications and workplace procedures
 - 4.9 Routine post-operational equipment checks are carried out in accordance with manufacturer specifications
- 5 **Pack up vehicle-mounted crane**
 - 5.1 Lifting equipment and crane components are checked for any signs of deterioration or damage in accordance with the appropriate Australian Standard

- 5.2 Damaged or worn equipment is segregated and reported to relevant person for appropriate actions in accordance with workplace procedures
 - 5.3 Crane equipment is correctly stowed and secured in accordance with manufacturer instructions and Australian Standard
 - 5.4 Vehicle-mounted loading crane is immobilised and secured for travel in accordance with manufacturer instructions, workplace guidelines and regulatory requirements
- 6 **Complete job records**
 - 6.1 Customer feedback is sought regarding satisfaction with completed job and areas of concern are reported in accordance with workplace procedures
 - 6.2 Customer signature is obtained on job completion documentation
 - 6.3 Required workplace records are updated accurately and promptly, and processed in accordance with workplace procedures

Foundation Skills

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

Range of Conditions

Range is restricted to essential operating conditions and any other variables essential to the work environment.

Non-essential conditions can be found in the TLI Transport and Logistics Training package Companion Volume Implementation Guide.

Unit Mapping Information

This unit replaces and is equivalent to TLID3033 Operate a vehicle-mounted loading crane.

Links

Companion Volume Implementation Guides are found in VETNet - <https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=df441c6e-213d-43e3-874c-0b3f7036d851>

Assessment Requirements for TLID0012 Operate a vehicle-mounted loading crane

Modification History

Release 1. This is the first release of this unit of competency in the TLI Transport and Logistics Training Package.

Performance Evidence

Evidence required to demonstrate competence in this unit must be relevant to and satisfy all of the requirements of the elements and performance criteria on at least one occasion and include:

- applying precautions and required actions to minimise, control or eliminate identified hazards
- calculating working load limit (WLL)
- checking and replenishing fluids, and carrying out lubrication processes
- communicating effectively with others
- completing relevant documentation
- interpreting and following operational instructions and prioritising work
- monitoring performance of a vehicle-mounted crane with a capacity of less than 10 metre tonnes and its equipment, and taking appropriate actions
- operating and adapting to differences in equipment in accordance with operating procedures
- reading and interpreting relevant instructions, lift plan, procedures, information and signs
- reporting or rectifying identified problems, faults or malfunctions promptly, in accordance with regulatory requirements and workplace procedures
- selecting and using required personal protective equipment (PPE) conforming to industry and work health and safety (WHS)/occupational health and safety (OHS) standards.

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:

- application of relevant agreements, codes of practice and other legislative requirements
- hazard management that is consistent with the principle of hierarchy of risk control with elimination, substitution, isolation and engineering control measures being selected before safe working practices and PPE
- high-risk work licence requirements
- mobile crane applications, capacities, configurations, safety hazards and control mechanisms
- operational procedures for vehicle-mounted crane crews/operators including crane and lifting gear load chart and manufacturer instructions
- operational work procedures and lift plan concerning setting up and rigging a mobile crane with a capacity of less than 10 metre tonnes at a worksite

- operational work systems and equipment
- prioritising and multi-tasking work
- problems that may arise when operating a vehicle-mounted loading crane with a capacity of less than 10 metre tonnes and actions that should be taken to prevent, report or resolve these problems
- purpose, characteristics, capabilities, requirements and limitations of vehicle-mounted crane with a capacity of less than 10 metre tonnes and its equipment
- relevant road rules, regulations, permit and licence requirements pertaining to vehicle-mounted crane operation
- relevant WHS/OHS and environmental procedures and regulations.

Assessment Conditions

Assessors must hold credentials specified within the Standards for Registered Training Organisations current at the time of assessment.

Assessment must satisfy the Principles of Assessment and Rules of Evidence and all regulatory requirements included within the Standards for Registered Training Organisations current at the time of assessment.

Assessment must occur in workplace operational situations where it is appropriate to do so; where this is not appropriate, assessment must occur in simulated workplace operational situations that replicate workplace conditions.

Simulators must not be used in the assessment of this unit of competency.

Assessment processes and techniques must be appropriate to the language, literacy and numeracy requirements of the work being performed and the needs of the candidate.

Resources for assessment must include access to:

- a range of relevant exercises and/or case studies
- a vehicle-mounted loading crane with a capacity of less than 10 metre tonnes
- applicable documentation including workplace procedures, lift plan, load chart, regulations, codes of practice and operation manuals
- relevant and appropriate materials, tools, equipment and PPE 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>

TLID2003 Handle dangerous goods/hazardous substances

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 handle dangerous goods and hazardous substances in accordance with relevant work health safety (WHS)/occupational health and safety (OHS) regulations concerning the safe handling of dangerous goods and hazardous substances, within the transport and logistics industry.

It includes identifying requirements for working with dangerous goods and/or hazardous substances, confirming site incident procedures and selecting handling techniques.

Work is performed under general supervision.

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

Pre-requisite Unit

Not applicable.

Competency Field

D – Load Handling

Unit Sector

Not applicable.

Elements and Performance Criteria

ELEMENTS

Elements describe the

PERFORMANCE CRITERIA

Performance criteria describe the performance needed to

essential outcomes.

demonstrate achievement of the element.

1 Identify requirements for working with dangerous goods and/or hazardous substances	1.1 Dangerous goods/hazardous substances are identified from information including class labels, manifests and other documentation 1.2 Job hazards are identified and required action is taken to minimise, control or eliminate identified hazards 1.3 Storage requirements for dangerous goods/hazardous substances are identified and applied 1.4 Legislative requirements for dangerous goods/hazardous substances are used to plan work activities 1.5 Handling procedures for different classes and characteristics of goods are observed 1.6 Confirmation is sought from relevant personnel where dangerous goods/hazardous materials do not appear to be appropriately marked
2 Confirm site incident procedures	2.1 Incident reporting processes are identified 2.2 Emergency equipment is located and checked in accordance with workplace procedures and statutory regulations 2.3 Emergency procedures are identified and confirmed
3 Select handling techniques	3.1 Load handling and shifting procedures are selected in accordance with identified requirements for particular goods 3.2 Handling equipment is checked for conformity with workplace requirements and manufacturer guidelines 3.3 Suitable signage or placards are checked for compliance with workplace procedures, as required

Foundation Skills

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

Range of Conditions

Range is restricted to essential operating conditions and any other variables essential to the work environment.

Non-essential conditions can be found in the Companion Volume Implementation Guide.

Unit Mapping Information

This unit replaces and is equivalent to TLID2003A Handle dangerous goods/hazardous substances.

Links

Companion Volume implementation guides are found in VETNet -
<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=df441c6e-213d-43e3-874c-0b3f7036d851>

Assessment Requirements for TLID2003 Handle dangerous goods/hazardous substances

Modification History

Release 1. This is the first release of this unit of competency in the TLI Transport and Logistics Training Package.

Performance Evidence

Evidence required to demonstrate competence in this unit must be relevant to and satisfy all of the requirements of the elements and performance criteria on at least one occasion and include:

- communicating and working effectively with others
- completing relevant documentation
- determining required permits
- estimating weight and dimensions of load and any special requirements
- identifying and assessing handling and storage precautions and requirements for dangerous goods/hazardous substances
- identifying and selecting safety requirements for handling dangerous goods/hazardous substances
- identifying containers and goods coding, markings and emergency information panels for mode of transport storage selected
- identifying dangerous goods/hazardous substances using labels, International Maritime Dangerous Goods (IMDG) Code markings, HAZCHEM signs and other relevant identification criteria
- identifying job and site hazards, and planning work to minimise risks
- implementing contingency plans
- maintaining workplace records and documentation
- modifying activities depending on operational contingencies, risk situations and environments
- monitoring and prioritising work activities in terms of planned schedule, predicting consequences and identifying improvements
- 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, regulations, information and signs
- recognising hazards and applying precautions and required action to minimise, control or eliminate recognised hazards
- reporting and/or rectifying identified problems, faults or malfunctions promptly, in accordance with regulatory requirements and workplace procedures

- selecting and using required personal protective equipment (PPE) conforming to industry and work health and safety (WHS)/occupational health and safety (OHS) standards
- selecting appropriate equipment and work systems including PPE
- working systematically with required attention to detail without injury to self or others, or damage to goods or equipment.

Knowledge Evidence

Evidence required to demonstrate competence in this unit must be relevant to and satisfy all of the requirements of the elements and performance criteria and include knowledge of:

- equipment applications, capacities, configurations, safety hazards and control mechanisms
- housekeeping standards and procedures
- permit and licence requirements
- problems that may arise when handling of dangerous goods and hazardous substances and actions that should be taken to prevent or solve these problems
- relevant aspects of current Australian Dangerous Goods (ADG) Code and relevant Australian Standards
- relevant regulations and codes concerning handling dangerous goods/hazardous substances
- risks when handling dangerous goods/hazardous substances and related precautions to control risk
- workplace procedures for handling and storing dangerous goods/hazardous substances.

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, current ADG Code, 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>

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.

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

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>

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.

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.

Links

Companion Volume implementation guides are found in VETNet -

<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=df441c6e-213d-43e3-874c-0b3f7036d851>

TLID2016 Load and unload explosives/dangerous goods

Modification History

Release 1. This is the first release of this unit of competency in the TLI Transport and Logistics Training Package.

Application

This unit involves the skills and knowledge required to load and unload explosives/dangerous goods in a range of operational situations, in accordance with relevant Australian and state/territory regulations including current Australian Dangerous Goods (ADG) Code, current Australian Code for the Transport of Explosives by Road and Rail (AE Code), and mass and loading regulations.

It includes identifying explosives/dangerous goods, loading and unloading explosives/dangerous goods using appropriate equipment, securing and protecting vehicle load, and checking vehicle to ensure load is secure and vehicle is marked in accordance with regulatory requirements.

Work is performed under limited or minimum supervision.

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

Pre-requisite Unit

Not applicable.

Competency Field

D – Load Handling

Unit Sector

Not applicable.

Elements and Performance Criteria

ELEMENTS

PERFORMANCE CRITERIA

Elements describe the essential outcomes.	Performance criteria describe the performance needed to demonstrate achievement of the element.
1 Prepare to load and unload vehicle	1.1 Explosives/dangerous goods are identified and their characteristics are taken into account in accordance with relevant emergency procedures when determining appropriate handling, loading and storage procedures 1.2 Job hazards are identified and required action is taken to minimise, control or eliminate identified hazards 1.3 Compatibility of explosives/dangerous goods is taken into account when assembling and segregating cargo for loading 1.4 Vehicle/loading equipment is checked to ensure it is suitable to handle/carry load
2 Load/unload vehicle	2.1 Vehicle is loaded/unloaded in accordance with workplace procedures and current ADG/AE Code as required 2.2 Load is segregated according to class and subsidiary risk, and load distribution is checked in accordance with workplace procedures, relevant mass and loading regulations, and current ADG/AE Code as required 2.3 Personal protective equipment is used during loading/unloading operations as required for type of explosives/dangerous goods concerned 2.4 Emergency procedures are followed in an incident or accident when loading or unloading explosives and/or dangerous goods
3 Secure and protect vehicle load	3.1 Vehicle load is secured using correct load restraint and protection equipment for different loads, vehicles and carriage conditions concerned 3.2 Load is protected in accordance with legal and workplace safety requirements 3.3 Load distribution is checked to ensure it is even, legal and within safe working capacity of vehicle 3.4 Vehicle is clearly marked/placarded to indicate carriage of explosives and/or dangerous goods, in accordance with government regulations and workplace procedures
4 Check vehicle	4.1 Loaded vehicle is inspected and checked to ensure it is suitable to carry explosives/dangerous goods, and load

weight and dimensions are within vehicle safe carrying capacity and equipment capability

- 4.2 Loaded vehicle is checked to ensure it can be safely parked and secured
- 4.3 Dangerous goods declaration and required transportation documentation for cargo is completed in accordance with workplace requirements

Foundation Skills

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

Range of Conditions

Range is restricted to essential operating conditions and any other variables essential to the work environment.

Non-essential conditions can be found in the Companion Volume Implementation Guide.

Unit Mapping Information

This unit replaces and is equivalent to TLID2016A Load and unload explosives and dangerous goods.

Links

Companion Volume implementation guides are found in VETNet -
<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=df441c6e-213d-43e3-874c-0b3f7036d851>

Assessment Requirements for TLID2016 Load and unload explosives/dangerous goods

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
- communicating and working effectively with others
- completing relevant documentation
- estimating size, shape and special requirements of loads
- identifying and interpreting containers and goods coding, markings and emergency information panels for mode of transport/storage selected
- identifying load characteristics, loading equipment and related practices
- identifying load label in accordance with identified classification and subsidiary risk information
- identifying markings/placards for vehicle in accordance with relevant regulatory requirements
- implementing contingency plans and modifying activities depending on operational contingencies, risk situations and environments
- loading and unloading explosives/dangerous goods safely, in accordance with workplace procedures and current Australian Dangerous Goods (ADG)/current Australian Code for the Transport of Explosives by Road and Rail (AE Code) requirements
- monitoring and prioritising work activities in terms of planned schedule
- operating and adapting to differences in equipment in accordance with operating procedures
- reading, interpreting and following relevant instructions, procedures, information and signs
- reporting /rectifying identified problems, faults or malfunctions promptly, in accordance with regulatory requirements and workplace procedures
- segregating, distributing and securing load for safe transport in accordance with regulations and current ADG/AE Code requirements
- selecting and using required personal protective equipment conforming to industry and work health safety (WHS)/occupational health and safety (OHS) standards
- using manual handling techniques and operating manually-operated load shifting equipment
- working systematically with required attention to detail without injury to self or others, or damage to goods or equipment.

Knowledge Evidence

Evidence required to demonstrate competence in this unit must be relevant to and satisfy all of the requirements of the elements and performance criteria and include knowledge of:

- characteristics of various classes of explosives/dangerous goods relevant to handling and transport
- compatibility of various types of explosives and/or dangerous goods
- housekeeping standards and procedures
- manual handling techniques and manually-operated load shifting equipment required for loading, unloading and handling explosives/dangerous goods
- methods of placarding or marking a vehicle carrying explosives and/or dangerous goods
- methods of securing a load on a vehicle
- WHS/OHS procedures and guidelines concerning lifting and moving loads
- relevant Australian explosives and/or dangerous goods codes and state/territory regulations for identifying, handling and marking explosives/dangerous goods
- relevant state/territory mass and loading regulations
- risks and hazards when loading, unloading and handling explosives/dangerous goods, and related precautions to control the risk
- workplace procedures and policies for loading and unloading explosives/dangerous goods.

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, ADG/AE Code,

- 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>

TLID3015 Identify and label explosives/dangerous goods

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 identify and label explosives/dangerous goods, in accordance with relevant Australian state/territory regulators and authorities concerned with the carriage of explosives and dangerous goods. This includes the current Australian Dangerous Goods (ADG) Code, Australian Code for the Transport of Explosives by Road and Rail (AE Code) and workplace procedures.

It includes assessing, handling and labelling explosives and/or dangerous goods, and complying with all required documentation.

Work is performed under limited or minimum supervision.

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

Pre-requisite Unit

Not applicable.

Competency Field

D – Load Handling

Unit Sector

Not applicable.

Elements and Performance Criteria

ELEMENTS

Elements describe the

PERFORMANCE CRITERIA

Performance criteria describe the performance needed to

essential outcomes.

demonstrate achievement of the element.

1 Assess explosives/dangerous goods	1.1	Load is checked for explosives/dangerous goods in accordance with relevant codes and government regulations
	1.2	Types of explosives/dangerous goods are identified from labels, current ADG/AE Code declarations and placarding, in accordance with workplace procedures and all required action is taken to ensure compliance with relevant government regulations and current ADG/AE Code, as required
	1.3	Load hazards are identified from labels and safety data sheets (SDSs)/material safety data sheets (MSDSs) and required action is taken to minimise, control or eliminate identified hazards
2 Handle explosives/dangerous goods	2.1	Identified explosives/dangerous goods are handled and loaded/unloaded in accordance with regulatory requirements, codes, national Load Restraint Guide (LRG) and workplace procedures
	2.2	Appropriate personal protective equipment is used when handling explosives/dangerous goods in accordance with class, subsidiary risk and SDS/MSDS information
	2.3	Identified hazards posed by explosives/dangerous goods concerned are taken into account when handling different types of load
	2.4	When loading/storing explosives/dangerous goods, segregation procedures are followed in accordance with class and subsidiary risk information
3 Label explosives/dangerous goods	3.1	All packages/containers are labelled with class and subsidiary risk information, in accordance with current ADG/AE Code and workplace procedures as required
	3.2	Dangerous goods declaration is included with manifest and other shipping documents
	3.3	Vehicles carrying explosives/dangerous goods are placarded in accordance with current ADG/AE Code, as required
4 Complete documentation	4.1	Required transport documents are confirmed
	4.2	All required transport documents are completed in accordance with current ADG/AE Code and workplace procedures as required

Foundation Skills

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

Range of Conditions

Range is restricted to essential operating conditions and any other variables essential to the work environment.

Non-essential conditions can be found in the Companion Volume Implementation Guide.

Unit Mapping Information

This unit replaces and is equivalent to TLID3015A Identify and label explosives and dangerous goods.

Links

Companion Volume implementation guides are found in VETNet -
<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=df441c6e-213d-43e3-874c-0b3f7036d851>

Assessment Requirements for TLID3015 Identify and label explosives/dangerous goods

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
- communicating effectively with others
- completing relevant documentation
- correctly marking/labelling explosives and dangerous goods
- handling explosives and/or dangerous goods in accordance with regulatory requirements, codes, national Load Restraint Guide (LRG) and employer policy as required
- identifying and using required personal protective equipment
- identifying explosives and dangerous goods from labels, in accordance with regulatory requirements and practices
- identifying hazards from labels of explosives and dangerous goods
- interpreting and following operational instructions and prioritising work
- interpreting safety data sheets (SDSs)/material safety data sheets (MSDSs), containers and goods coding, markings and other information describing explosives and dangerous goods including emergency information panels for mode of transport/storage selected
- locating, interpreting and applying relevant codes and regulations
- maintaining workplace records for explosives and dangerous goods
- monitoring work activities in terms of planned schedule
- operating and adapting to differences in equipment in accordance with workplace procedures
- reading and interpreting relevant instructions, procedures, information and signs
- selecting and using required personal protective equipment, and conforming to industry and work health safety (WHS)/occupational health and safety (OHS) standards
- working collaboratively with others
- working systematically with required attention to detail without injury to self or others, or damage to goods or equipment.

Knowledge Evidence

Evidence required to demonstrate competence in this unit must be relevant to and satisfy all of the requirements of the elements and performance criteria and include knowledge of:

- characteristics of explosives and dangerous goods relevant to handling and transport
- compatibility of various types of explosives and dangerous goods
- housekeeping standards and procedures
- relevant Australian and state/territory regulations and codes for identifying and labelling explosives and dangerous goods including the current Australian Dangerous Goods (ADG) Code and Australian Code for the Transport of Explosives by Road and Rail (AE Code)
- risks and hazards when loading, unloading and handling explosives and dangerous goods, and related precautions to control the risk
- site layout and obstacles
- WHS/OHS procedures and guidelines concerning lifting and moving loads
- workplace procedures and policies for identifying and labelling explosives and dangerous goods.

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, current ADG/AE Code, 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>

TLID3023 Use specialised liquid bulk gas transfer equipment

Modification History

Release 1. This is the first release of this unit of competency in the TLI Transport and Logistics Training Package.

Application

This unit involves the skills and knowledge required to use specialised bulk gas transfer equipment to load and unload liquid bulk gas in accordance with the current Australian Dangerous Goods (ADG) Code and relevant state/territory regulations.

It includes planning work, transferring gas in accordance with regulatory and operational requirements, monitoring and operating controls, and completing all operations, as required.

Work is performed under general supervision.

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

Pre-requisite Unit

Not applicable.

Competency Field

D – Load Handling

Unit Sector

Not applicable.

Elements and Performance Criteria

ELEMENTS

Elements describe the essential outcomes.

PERFORMANCE CRITERIA

Performance criteria describe the performance needed to demonstrate achievement of the element.

1 Plan work

- 1.1 Job hazards are identified and required action is taken to minimise, control or eliminate identified hazards
- 1.2 Gas transfer method is identified for loading and unloading as liquefied or gaseous state
- 1.3 Precautions are undertaken to eliminate all ignition sources
- 1.4 Specialised handling requirements for particular gas are identified and relevant workplace procedures are taken into account when planning work
- 1.5 Traffic flow, vehicle positioning and work area conditions are assessed to ensure safe operation and no injury to people, or damage to equipment, loads or facilities
- 1.6 Characteristics of gas, transfer and holding method are taken into account when evaluating procedural requirements, special precautions for method, equipment and, as required, appropriate attachments to transfer load
- 1.7 Potential occurrences in work area that may affect safety and efficiency of operations are reported to appropriate personnel
- 1.8 Gas transfer is planned, taking into account requirements of load, transfer method, storage facility, transport mode, load weight, volume, viscosity and equipment capacity
- 1.9 Load is checked prior to and at completion of transfer to ensure ullage and/or maximum permitted capacity complies with current ADG Code
- 1.10 Adjustments are made to process to accommodate special requirements such as temperature control and combustion
- 1.11 Required personal protective equipment, signage, barriers and special precautions are identified in plan and utilised
- 1.12 Workplace procedures to deal with leakages and ruptures are identified

2 Transfer material

- 2.1 Equipment is prepared and appropriate attachment is fitted
- 2.2 Equipment controls are checked for correct operational status before commencing transfer
- 2.3 Instruments and gauges are monitored during operations to ensure operation is within manufacturer specifications, enterprise schedule and safety requirements

	2.4	Speed of operation is managed for safety and efficiency of materials movement and equipment operations
	2.5	Faults or damage to equipment are immediately reported to appropriate personnel
3 Monitor and operate controls	3.1	Equipment controls are monitored and operated in accordance with manufacturer operating instructions
	3.2	Control systems are monitored in accordance with statutory authority regulations, manufacturer guidelines and site workplace procedures
	3.3	Gas is transferred ensuring no injury to personnel or damage to equipment or goods
	3.4	Faults are identified and reported in accordance with workplace procedures
4 Complete operations	4.1	Equipment is shut down in accordance with manufacturer guidelines without injury to personnel or damage to equipment, loads or facilities in accordance with workplace procedures
	4.2	Clean up methods for transfer equipment are completed in accordance with workplace procedures
	4.3	Equipment is secured in accordance with workplace procedures for appropriate equipment
	4.4	Workplace documentation is completed and filed in accordance with workplace procedures

Foundation Skills

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

Range of Conditions

Range is restricted to essential operating conditions and any other variables essential to the work environment.

Non-essential conditions can be found in the Companion Volume Implementation Guide.

Unit Mapping Information

This unit replaces and is equivalent to TLID3023A Use specialised liquid bulk gas transfer equipment.

Links

Companion Volume implementation guides are found in VETNet -
<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=df441c6e-213d-43e3-874c-0b3f7036d851>

Assessment Requirements for TLID3023 Use specialised liquid bulk gas transfer equipment

Modification History

Release 1. This is the first release of this unit of competency in the TLI Transport and Logistics Training Package.

Performance Evidence

Evidence required to demonstrate competence in this unit must be relevant to and satisfy all of the requirements of the elements and performance criteria on at least one occasion and include:

- applying precautions and required action to minimise, control or eliminate identified hazards
- applying relevant legislation and workplace procedures
- communicating effectively with others
- implementing contingency plans
- interpreting and following operational instructions and prioritising work
- modifying activities depending on operational contingencies, risk situations and environments
- monitoring performance of transfer equipment
- operating and adapting to differences in transfer equipment in accordance with workplace procedures
- reading and interpreting relevant instructions, workplace procedures, information and signs
- reporting and/or rectifying identified problems, faults or malfunctions promptly, in accordance with regulatory requirements and workplace procedures
- servicing transfer equipment in terms of maintenance schedule and standard workplace procedures
- working systematically with required attention to detail without injury to self or others, or damage to product or equipment.

Knowledge Evidence

Evidence required to demonstrate competence in this unit must be relevant to and satisfy all of the requirements of the elements and performance criteria and include knowledge of:

- current Australian Dangerous Goods (ADG) Code and relevant state/territory mass and loading regulations as they apply to vehicles transporting liquid bulk gas
- hazard management consistent with the principle of hierarchy of control with elimination, substitution, isolation and engineering control measures being selected before safe working practices and personal protective equipment
- housekeeping standards and procedures
- methods of securing a vehicle following transferring liquid bulk gas
- relevant permit and licence requirements
- risks when transferring liquid bulk gas and related precautions to control the risk
- work health and safety (WHS)/occupational health and safety (OHS) procedures and guidelines for using specialised bulk transfer equipment
- workplace procedures and policies for efficiently using specialised equipment to transfer liquid bulk gas.

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, current ADG Code, 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>

TLID3027 Prepare for transport of dangerous goods

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 prepare for the transport of dangerous goods as part of work activities undertaken within the transport and logistics industry. This is undertaken in accordance with relevant state/territory regulations for transporting dangerous goods, including the current Australian Dangerous Goods (ADG) Code.

It includes checking dangerous goods load, assessing vehicle suitability to transport intended load, checking emergency procedures and equipment, evaluating documented route plans, and completing required assessment process.

Work is performed under general supervision.

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

Pre-requisite Unit

Not applicable.

Competency Field

D – Load Handling

Unit Sector

Not applicable.

Elements and Performance Criteria

ELEMENTS

Elements describe the

PERFORMANCE CRITERIA

Performance criteria describe the performance needed to

essential outcomes.

demonstrate achievement of the element.

1 Check dangerous goods load

- 1.1 Load is compared against transport documentation and discrepancies are noted
- 1.2 Job hazards are identified and required action is taken to minimise, control or eliminate identified hazards
- 1.3 Load is checked to ensure dangerous goods labels are clearly visible and legible, and packaged goods are correctly labelled
- 1.4 Load is checked to ensure containers are not damaged
- 1.5 Vehicle load is checked for compatibility or, where not compatible, is checked for appropriate segregation in accordance with regulatory requirements
- 1.6 Load is assessed to ensure it is stowed and secured in or on vehicles in accordance with the current ADG Code and national Load Restraint Guide(LRG)
- 1.7 Shipping documentation and other relevant documents are located in cabin in accordance with regulatory requirements

2 Assess vehicle suitability to transport intended load

- 2.1 Vehicle is assessed for suitability and appropriateness to carry designated dangerous goods including classification, mass and configuration
- 2.2 Licence and insurance requirements are checked for conformity with current ADG Code and/or other applicable regulatory requirements as required
- 2.3 Load restraint system/s is checked for serviceability and appropriateness to secure intended load
- 2.4 Vehicle is checked to ensure it is correctly and clearly marked/placarded for load being carried

3 Check emergency procedures and equipment

- 3.1 Emergency information for each type of transported dangerous good is noted
- 3.2 Regulatory and workplace procedures for an incident are noted including notification of relevant personnel and authorities and, as required, use of equipment for containment, clean up or recovery
- 3.3 Personal protective equipment and safety equipment are checked for operational capability and appropriateness to proposed load

	3.4	Emergency information is located in cabin in accordance with current ADG Code requirements
4 Evaluate documented route plan	4.1	Selected route plan and potential difficulties including regulatory restrictions, traffic flow and conditions, obstacles, road standards and construction activities are assessed
	4.2	Regulatory and workplace procedures for driving, parking, loading and unloading are identified including actions for disengaging and/or securing vehicle
5 Complete documentation	5.1	Load is inspected and checked for security to travel in accordance with relevant regulations/permit requirements and current ADG Code
	5.2	All required documentation for dangerous goods is completed in accordance with regulatory and workplace requirements

Foundation Skills

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

Range of Conditions

Range is restricted to essential operating conditions and any other variables essential to the work environment.

Non-essential conditions can be found in the Companion Volume Implementation Guide.

Unit Mapping Information

This unit replaces and is equivalent to TLID3027A Prepare for transport of dangerous goods.

Links

Companion Volume implementation guides are found in VETNet - <https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=df441c6e-213d-43e3-874c-0b3f7036d851>

Assessment Requirements for TLID3027 Prepare for transport of dangerous goods

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 fatigue management knowledge and techniques
- applying hierarchy of hazard control
- assessing operational suitability of equipment and vehicles for dangerous goods transportation
- communicating effectively with others
- completing relevant documentation
- determining required permits
- estimating mass, volume and special requirements of load
- estimating weight and dimensions of load and special requirements
- identifying and correctly using equipment required to load dangerous goods
- identifying goods coding, markings and emergency information panels for mode of transport/storage selected
- identifying hazards and applying precautions and required action to minimise, control or eliminate identified hazards
- identifying hazards and planning work to minimise risks
- implementing contingency plans
- interpreting and following operational instructions and prioritising work
- maintaining workplace records and documentation including completion of dangerous goods declaration
- modifying activities depending on operational contingencies, risk situations and environments
- monitoring work activities in terms of planned schedule
- operating and adapting to differences in equipment in accordance with operating procedures
- operating electronic communications equipment to required protocol
- reading and interpreting relevant instructions, procedures, information and signs
- reporting and/or rectifying identified problems promptly, in accordance with regulatory requirements and workplace procedures
- selecting and using required personal protective equipment conforming to industry and work

health safety (WHS)/occupational health and safety (OHS) standards

- selecting appropriate equipment and work systems to enable safe, efficient work
- working collaboratively with others
- working systematically with required attention to detail without injury to self or others, or damage to goods or equipment.

Knowledge Evidence

Evidence required to demonstrate competence in this unit must be relevant to and satisfy all of the requirements of the elements and performance criteria and include knowledge of:

- current Australian Dangerous Goods (ADG) Code
- housekeeping standards and procedures
- methods of securing a vehicle following loading of dangerous goods
- problems that may occur when preparing to transport dangerous goods and action that should be taken to prevent or solve these problems
- relevant permit and licence requirements
- relevant state/territory mass and loading regulations for vehicles transporting dangerous goods
- risks when transporting dangerous goods and related precautions to control the risk
- WHS/OHS procedures and guidelines for transporting dangerous goods
- workplace procedures and policies for preparing dangerous goods.

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, current ADG Code, 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>

TLID3036 Lift and move load using a mobile crane

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 lift and move a load using a non-slewing mobile crane or a slewing mobile crane, in a variety of operational contexts.

It includes operating mobile crane to complete job requirements, monitoring lift conditions, implementing shut-down procedures, packing up crane after operations and completing all required job records.

People achieving competence in this unit will need to fulfil the applicable state/territory legislated high risk work licence requirements and to comply with relevant codes of practice and/or guidelines for mobile crane operations.

Work is performed with limited supervision and duty of care responsibility for self and others, in achieving the prescribed outcomes.

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

Pre-requisite Unit

Not applicable.

Competency Field

D – Load Handling

Unit Sector

Not applicable.

Elements and Performance Criteria

ELEMENTS

Elements describe the essential outcomes.

1 Operate mobile crane

PERFORMANCE CRITERIA

Performance criteria describe the performance needed to demonstrate achievement of the element.

- 1.1 Job hazards are identified and required action is taken to minimise, control or eliminate identified hazards
- 1.2 In ascent and descent to/from crane, correct use is made of means provided, in accordance with relevant codes of practice and workplace procedures
- 1.3 Required signals are correctly given, interpreted and followed in accordance with appropriate workplace procedures
- 1.4 Boom is positioned to ensure load to be lifted is plumbed under hook
- 1.5 Load is hoisted and lowered into position using crane movements, in accordance with appropriate workplace procedures
- 1.6 Crane controls are operated smoothly
- 1.7 Crane is shut down and secured during periods of non-operation, in accordance with manufacturer specifications and workplace procedures
- 2.1 Load is constantly monitored to ensure load and structural stability
- 2.2 Conditions that may affect continuing stability of crane are identified and monitored
- 2.3 Unplanned situations are responded to in accordance with workplace procedures in a manner that minimises risk to personnel and equipment
- 2.4 Dogger is advised of new information that affects lift
- 2.5 Necessary changes to job plan are discussed and confirmed with rest of crew
- 2.6 Advice is sought from supervisor where there is doubt about correct response to unanticipated conditions, or conflict with customer request

2 Monitor lift conditions

	2.7	Supervisor/allocator is advised of concerns about completing job within timeframe
3 Implement shut-down procedures	3.1	Relevant motion locks and brakes are applied
	3.2	Crane is shut down using correct sequence of procedures in accordance with manufacturer specifications and workplace procedures
	3.3	Routine post-operational equipment checks are carried out in accordance with manufacturer specifications
4 Pack up crane	4.1	Crane is de-rigged with other crane personnel in accordance with manufacturer instructions
	4.2	All lifting equipment and crane components are checked in consultation with crane personnel for signs of deterioration or damage in accordance with appropriate Australian Standard
	4.3	Damaged or worn equipment is segregated and reported to authorised person for testing/repair/destruction
	4.4	Crane and equipment are correctly stowed and secured in accordance with manufacturer instructions and appropriate Australian Standard
5 Complete job records	5.1	Customer feedback is sought about satisfaction with completed job, and areas of concern are reported in accordance with workplace procedures
	5.2	Customer signature on job completion documentation is obtained
	5.3	Required workplace records are updated accurately and promptly, and processed in accordance with workplace procedures

Foundation Skills

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

Range of Conditions

Range is restricted to essential operating conditions and any other variables essential to the work environment.

Non-essential conditions can be found in the Companion Volume Implementation Guide.

Unit Mapping Information

This unit replaces and is equivalent to TLID3036A Lift and move load using a mobile crane.

Links

Companion Volume implementation guides are found in VETNet -
<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=df441c6e-213d-43e3-874c-0b3f7036d851>

Assessment Requirements for TLID3036 Lift and move load using a mobile crane

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 high risk work legislation and workplace procedures
- applying risk assessment and management procedures
- calculating safe working load (SWL) and working load limit (WLL)
- communicating and working effectively with others
- completing relevant documentation
- effectively completing pre-operational checks, positioning, stabilising, set-up, post-operational checks of mobile crane
- modifying activities depending on operational contingencies, risk situations and environments
- monitoring performance of equipment
- monitoring work activities in terms of planned schedule
- operating and adapting to differences in equipment in accordance with workplace operating procedures
- operating crane, including all functions to their maximum extension, in lifting and moving a load
- reading and interpreting relevant instructions, procedures, information and signs
- reporting and/or rectifying identified problems, faults or malfunctions promptly, in accordance with regulatory requirements and workplace procedures
- servicing equipment in terms of maintenance schedule and standard operating procedures
- using load charts to determine crane limitations and/or required crane set-up
- using mathematical procedures to determine load weight and lifting equipment required for lift.

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:

- communications systems used during a lift
- hazard management, using the principle of hierarchy of control
- high risk work licence requirements
- mobile crane applications, capacities, configurations, safety hazards and control mechanisms
- operational work systems and equipment
- problems that may occur during a lift, and associated action that can be taken to address these problems
- relevant road rules, regulations, permit and licence requirements for mobile crane operation
- relevant work health and safety (WHS)/occupational health and safety (OHS) and environmental procedures and regulations
- risks and hazards involved in mobile crane operations, and associated action that can be taken to eliminate or minimise the risk
- workplace procedures for operating a mobile crane at a worksite.

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
- mobile crane, of the type currently used in industry
- 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>

TLIF0012 Implement and coordinate accident-emergency 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 coordinate accident and emergency procedures in accordance with relevant regulations and workplace procedures.

It includes responding to the incident, coordinating on-site activities and completing follow-up actions.

Work is performed under some supervision generally within a team environment. It involves the application of basic emergency response principles when implementing accident and emergency response procedures and includes providing assistance ranging from simple injuries to applying life support systems.

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

Pre-requisite Unit

Not applicable.

Competency Field

F – Safety Management

Unit Sector

Not applicable.

Elements and Performance Criteria

ELEMENTS

Elements describe the essential outcomes.

1 Respond to incident

PERFORMANCE CRITERIA

Performance criteria describe the performance needed to demonstrate achievement of the element.

1.1 Details of incidents, accidents and emergencies are

		received, analysed and confirmed
	1.2	Hazards are identified, risks assessed and control measures implemented
	1.3	Immediate coordination requirements are identified and actioned in accordance with organisation procedures
	1.4	Travel to incident site is undertaken by the shortest, fastest, legal means and routes
2	Coordinate on-site activities	
	2.1	Control of site activities is assumed on arrival, and operator and other authorities present are informed of this action
	2.2	Assistance is provided to clients and operators within limitations of duty of care and organisational requirements
	2.3	Details of personnel, including names and nature of injuries, are notified to relevant personnel, in accordance with organisational policies and procedures
	2.4	Assistance is provided to relevant authorities within legal and policy limitations
3	Complete follow-up actions	
	3.1	Incidents resulting in a near miss, accident or emergency are investigated and a report, including recommendations, is completed in accordance with organisational policies and procedures
	3.2	Accident procedures and emergency plans are reviewed for effectiveness and recommendations for changes are prepared and submitted to appropriate persons

Foundation Skills

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

Range of Conditions

Range is restricted to essential operating conditions and any other variables essential to the work environment.

Unit Mapping Information

This unit replaces and is equivalent to TLIF4007 Implement and coordinate accident-emergency procedures.

Links

Companion Volume Implementation Guides are found in VETNet -

<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=df441c6e-213d-43e3-874c-0b3f7036d851>

Assessment Requirements for TLIF0012 Implement and coordinate accident-emergency 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 precautions and required action to minimise, control or eliminate identified hazards
- applying relevant legislation and workplace procedures
- communicating effectively with others when implementing and coordinating accident and emergency response procedures
- completing relevant documentation
- interpreting and following operational instructions and prioritising work
- modifying activities depending on operational contingencies, risk situations and environments
- reading and interpreting relevant instructions, procedures, information and signs
- working collaboratively with others when implementing and coordinating accident and emergency procedures
- working systematically with required attention to detail without injury to self or others, or damage to goods or equipment.

Knowledge Evidence

Evidence required to demonstrate competence in this unit must be relevant to and satisfy all of the requirements of the elements and performance criteria and include knowledge of:

- means to control and organise an accident scene, provide practical assistance and cooperate with others at the scene
- relevant work health safety (WHS)/occupational health and safety (OHS) and other regulatory codes, procedures and guidelines concerning response to accidents and emergencies
- risks and hazards in the workplace and related precautions to control risk
- workplace procedures and policies for responding to accidents and emergencies.

Assessment Conditions

Assessors must hold credentials specified within the Standards for Registered Training

Organisations current at the time of assessment.

Assessment must satisfy the Principles of Assessment and Rules of Evidence and all regulatory requirements included within the Standards for Registered Training Organisations current at the time of assessment.

Assessment must occur in workplace operational situations where it is appropriate to do so; where this is not appropriate, assessment must occur in simulated workplace operational situations that replicate workplace conditions.

Assessment processes and techniques must be appropriate to the language, literacy and numeracy requirements of the work being performed and the needs of the candidate.

Resources for assessment must include:

- a range of relevant exercises, case studies and/or simulations
- relevant and appropriate materials, tools, equipment and personal protective equipment (PPE) currently used in industry
- applicable documentation including 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>

TLIF0014 Monitor the safety of transport activities (Chain of Responsibility)

Modification History

Release 1. This is the first release of this unit of competency in the TLI Transport and Logistics Training Package.

Application

This unit involves the skills and knowledge required to monitor the safety of transport activities.

It includes determining and monitoring chain of responsibility features in the Heavy Vehicle National Law (HVNL) or applicable state/territory law and regulations. It also involves administering and monitoring chain of responsibility workplace policies and procedures, and identifying and reporting chain of responsibility risks.

Work is performed under general direction.

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

Pre-requisite Unit

Not applicable.

Competency Field

F – Safety Management

Unit Sector

Not applicable.

Elements and Performance Criteria

ELEMENTS

Elements describe the essential outcomes.

1 Determine chain of responsibility features in the HVNL or applicable state/territory law and

PERFORMANCE CRITERIA

Performance criteria describe the performance needed to demonstrate achievement of the element.

1.1 Transport activities and parties in the chain of responsibility are determined

regulations

	1.2	Principle of shared responsibility obligations within chain of responsibility in the HVNL or applicable state/territory law and regulations are determined
	1.3	Primary duty of each party in the chain of responsibility as outlined in the HVNL or applicable state/territory law and regulations are explained
	1.4	So far as reasonably practicable or reasonable steps compliance with chain of responsibility as outlined in the HVNL or applicable state/territory law and regulations are explained
	1.5	Breaches and penalties for failure to comply with chain of responsibility as identified in the HVNL or applicable state/territory law and regulations are explained
2	Monitor chain of responsibility obligations in the HVNL or applicable state/ territory law and regulations	
	2.1	Workplace policies, procedures and other safety documents relevant to transport activities as they apply to job function are identified and monitored
	2.2	Methods and requirements to facilitate and ensure management of speed and fatigue are monitored in accordance with job function and workplace procedures
	2.3	Methods to calculate and assess vehicle dimension and mass limits are monitored in accordance with job function
	2.4	Methods to ensure loads are secured are monitored in accordance with workplace procedures
	2.5	Heavy vehicles safety standards are identified and monitored in accordance with workplace procedures
	2.6	Transport activity risks are identified, assessed and risk control measures implemented and monitored in accordance with workplace procedures
	2.7	Workplace records relating to transport activities are monitored and reviewed in accordance with workplace requirements and industry practice
3	Administer and monitor chain of responsibility workplace policies and	
	3.1	Workplace procedures and industry practices for reporting transport activities risks are identified and

procedures	implemented
	3.2
	Workplace policies and procedures relating to chain of responsibility and associated changes are communicated to all staff
	3.3
	Application of workplace policies and procedures relating to chain of responsibility is monitored to ensure compliance with transport activity obligations
	3.4
	Appropriate action is taken when non-compliances with chain of responsibility requirements are identified
4 Undertake due diligence activities	4.1
	Transport activities risks and safety duties are identified in accordance with job function and workplace procedures
	4.2
	Current hazards and risk information is analysed in a timely manner and appropriate mitigation actions considered in accordance with job function and workplace procedures
	4.3
	Resources are allocated in accordance with job function and workplace procedures
	4.4
	Risk control measures are implemented and mitigation processes verified in accordance with workplace procedures

Foundation Skills

Foundation skills essential to performance are explicit at a broad level in the performance criteria of this unit of competency.

Range of Conditions

Range is restricted to essential operating conditions and any other variables essential to the work environment.

Unit Mapping Information

This unit replaces but is not equivalent to TLIF0002 Administer chain of responsibility policies and procedures.

Links

Companion Volume Implementation Guides are found in VETNet -

<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=df441c6e-213d-43e3-874c-0b3f7036d851>

Assessment Requirements for TLIF0014 Monitor the safety of transport activities (Chain of Responsibility)

Modification History

Release 1. This is the first release of this unit of competency in the TLI Transport and Logistics Training Package.

Performance Evidence

Evidence required to demonstrate competence in this unit must be relevant to and satisfy all of the requirements of the elements and performance criteria and include:

- applying and monitoring workplace policies and procedures relating to safety of transport activities (chain of responsibility) in a supervisory function reflecting a minimum of four weeks
- applying applicable state/territory law and regulations
- applying chain of responsibility obligations relating to own job function on a minimum of three occasions
- assessing the likelihood and consequences of harm relating to own job function on a minimum of three occasions
- completing safety documentation of identified transport activities of a heavy vehicle risks on a minimum of three occasions, each about a different type of risk
- identifying heavy vehicle transport activities risks
- implementing relevant risk control measures and reporting actions taken to relevant person in accordance with workplace procedures on a minimum of three occasions.

Knowledge Evidence

Evidence required to demonstrate competence in this unit must be relevant to and satisfy all of the requirements of the elements and performance criteria and include knowledge of:

- actions required when possible risks of the transport activity of a heavy vehicle are identified
- consideration of external factors in managing speed and fatigue
- due diligence including taking reasonable steps to:
 - acquire and keep up to date on knowledge about the safe conduct of transport activities
 - identify the nature of the legal entity's transport activities and the hazards and risks associated with those activities
 - ensure that appropriate resources are allocated and used to eliminate or minimise those hazards and risks
 - verify the control measures implemented are effective
- function of driver and how they relate to transport activities including level of influence and control

- functions including:
 - duties within the individual's own function
 - duties performed by others under the individual's supervision
 - duties that influence or direct other parties in the chain of responsibility
- methods, industry standards and requirements to ensure management of fatigue, speed, load restraint, mass, dimension and heavy vehicle maintenance and how they relate to transport activity job functions
- parties in the chain of responsibility and the concept of level of influence and control
- potential consequences of non-compliance with the applicable heavy vehicle state/territory law and regulations
- principal obligations relating to chain of responsibility in the Heavy Vehicle National Law (HVNL) or applicable state/territory law and regulations including:
 - consideration of traffic conditions in managing speed and fatigue
 - fatigue, work and rest times
 - securing loads
 - vehicle dimension and load limits
- transport activities as defined by the HVNL or applicable state/territory law and regulations
- what constitutes a shared duty, a reasonable practicable, a risk and heavy vehicle transport activity as they apply to a range of job functions
- what constitutes an unreasonable request
- where to locate current information relating to heavy vehicle transport activities including:
 - codes of practices
 - heavy vehicle standards
 - securing loads, load placement and load restraint
 - vehicle dimension and mass limits
- workplace policies and procedures for own job function and the range of job functions for which own job function is responsible.

Assessment Conditions

Assessors must hold credentials specified within the Standards for Registered Training Organisations current at the time of assessment.

Assessment must satisfy the Principles of Assessment and Rules of Evidence and all regulatory requirements included within the Standards for Registered Training Organisations current at the time of assessment.

Assessment must occur in workplace operational situations where it is appropriate to do so; where this is not appropriate, assessment must occur in simulated workplace operational situations that replicate workplace conditions.

Assessment processes and techniques must be appropriate to the language, literacy and numeracy requirements of the work being performed and the needs of the candidate.

Resources for assessment must include:

- a range of relevant exercises, case studies and/or simulations
- relevant and appropriate materials, tools, equipment and personal protective equipment (PPE) currently used in industry
- applicable documentation including legislation, regulations, codes of practice, workplace procedures and operation manuals.

Links

Companion Volume Implementation Guides are found in VETNet -
<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=df441c6e-213d-43e3-874c-0b3f7036d851>

TLIF2006 Apply accident-emergency procedures

Modification History

Release 2. This is the second release of this unit of competency in the TLI Transport and Logistics Training Package:

- Minor word changes and reordering in Knowledge Evidence
- Minor statement changes in Assessment Conditions.

Release 1. This is the first release of this unit of competency in the TLI Transport and Logistics Training Package.

Application

This unit involves the skills and knowledge required to apply accident-emergency procedures in accordance with work health safety (WHS)/occupational health and safety (OHS) codes of practice, regulations and workplace requirements.

It includes responding to an incident, controlling and assisting at an accident or emergency site, finalising accident-emergency processes and completing records.

Work is performed under limited supervision.

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

Pre-requisite Unit

Not applicable.

Competency Field

F – Safety Management

Unit Sector

Not applicable.

Elements and Performance Criteria

ELEMENTS

Elements describe the essential outcomes.

PERFORMANCE CRITERIA

Performance criteria describe the performance needed to demonstrate achievement of the element.

1 Respond to an incident	1.1 Response to incident or accident is in accordance with workplace emergency procedures and relevant regulatory requirements
	1.2 Incident cause and effects details are identified and reported
	1.3 Hazards are identified, risks assessed and control measures implemented
	1.4 Assistance requirements for accidents and emergencies are clarified and reported immediately to appropriate parties
	1.5 Requests for assistance are made to relevant personnel and emergency services
2 Control and assist at accident or emergency site	2.1 Site is controlled and protected until arrival of authorised personnel
	2.2 Assistance is provided to injured persons within limitations of duty of care responsibilities and workplace procedures
	2.3 Relevant authorities at the site are cooperated with and assisted in accordance with workplace policies
3 Finalise accident - emergency process and complete records	3.1 Relevant information is exchanged in accordance with state/territory law and workplace procedures
	3.2 Documentation and reports are completed and processed in accordance with workplace and relevant regulatory requirements

Foundation Skills

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

Range of Conditions

Range is restricted to essential operating conditions and any other variables essential to the work environment.

Unit Mapping Information

This unit replaces and is equivalent to TLIF2006A Apply accident-emergency procedures.

Links

Companion Volume Implementation Guides are found in VETNet -
<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=df441c6e-213d-43e3-874c-0b3f7036d851>

Assessment Requirements for TLIF2006 Apply accident-emergency procedures

Modification History

Release 2. This is the second release of this unit of competency in the TLI Transport and Logistics Training Package:

- Minor word changes and reordering in Knowledge Evidence
- Minor statement changes in Assessment Conditions.

Release 1. This is the first release of this unit of competency in the TLI Transport and Logistics Training Package.

Performance Evidence

Evidence required to demonstrate competence in this unit must be relevant to and satisfy all of the requirements of the elements and performance criteria on at least one occasion and include:

- analysing work environment to identify hazards, assess safety risks and implement appropriate work health and safety (WHS)/occupational health and safety (OHS) control procedures
- applying precautions and required action to minimise, control or eliminate identified hazards
- applying relevant legislation and workplace emergency response procedures
- communicating effectively with others
- completing relevant documentation
- modifying activities depending on operational contingencies, risk situations and environments
- negotiating and resolving issues when responding to an accident or an emergency
- operating electronic communications equipment to required protocol
- reading and interpreting relevant instructions, procedures and information
- reporting and/or rectifying identified problems, faults or malfunctions promptly, in accordance with regulatory requirements and workplace procedures
- selecting and appropriately applying technology, information systems and policies during a safety incident, accident or emergency
- selecting and using required personal protective equipment (PPE) conforming to industry and WHS/OHS standards
- working collaboratively with others
- working systematically with required attention to detail without injury to self or others, or damage to goods or equipment.

Knowledge Evidence

- focus of operation of work systems, equipment or management, site and organisational

- operating and emergency procedures
- relevant regulatory and codes of practice requirements applicable in accident/emergency situations
- relevant WHS/OHS and environmental protection policies and procedures
- site layout
- typical problems that can occur during a safety incident, accident or emergency and related actions that can be taken
- workplace emergency, fire and accident procedures
- workplace procedures for accident-emergency response.

Assessment Conditions

Assessors must hold credentials specified within the Standards for Registered Training Organisations current at the time of assessment.

Assessment must satisfy the Principles of Assessment and Rules of Evidence and all regulatory requirements included within the Standards for Registered Training Organisations current at the time of assessment.

Assessment must occur in workplace operational situations where it is appropriate to do so; where this is not appropriate, assessment must occur in simulated workplace operational situations that replicate workplace conditions.

Assessment processes and techniques must be appropriate to the language, literacy and numeracy requirements of the work being performed and the needs of the candidate.

Resources for assessment must include:

- a range of relevant exercises, case studies and/or simulations
- relevant and appropriate materials, tools, equipment and PPE currently used in industry
- applicable documentation including workplace procedures, regulations, codes of practice and operation manuals.

Links

Companion Volume Implementation Guides are found in VETNet -
<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=df441c6e-213d-43e3-874c-0b3f7036d851>

TLIF2010 Apply fatigue management 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 apply fatigue management strategies within the transport and logistics industry. Work is undertaken in compliance with relevant legislation, regulations, codes and guidelines.

It includes identifying and acting on signs of fatigue and implementing appropriate strategies to minimise fatigue during work activities, in particular when operating equipment, trains, vehicles, load shifting equipment, marine vessels and aircraft.

Work is performed under some supervision generally within a team environment.

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

Pre-requisite Unit

Not applicable.

Competency Field

F – Safety Management

Unit Sector

Not applicable.

Elements and Performance Criteria

ELEMENTS

PERFORMANCE CRITERIA

Elements describe the essential outcomes.

Performance criteria describe the performance needed to demonstrate achievement of the element.

1 Identify and act on signs of fatigue

1.1 Potential causes of fatigue are identified and action is taken to minimise their effects in accordance with company procedures

- 1.2 Personal warning signs of fatigue are recognised and necessary steps are taken in accordance with workplace procedures, to ensure that effective work capability and alertness are maintained
- 2 Implement strategies to minimise fatigue**
 - 2.1 Workplace procedures are assessed to minimise fatigue
 - 2.2 Factors that increase the risk of fatigue-related accidents and incidents are minimised
 - 2.3 Fatigue management strategies are implemented in accordance with workplace policy
 - 2.4 Lifestyle choices are made that promote the effective long-term management of fatigue
 - 2.5 Effective practices in combating fatigue are adopted and applied
 - 2.6 Personal fatigue management strategies are communicated to relevant people
 - 2.7 Appropriate counter measures are planned to combat fatigue

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 TLIF2010A Apply fatigue management strategies.

Links

Companion Volume implementation guides are found in VETNet -

<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=df441c6e-213d-43e3-874c-0b3f7036d851>

Assessment Requirements for TLIF2010 Apply fatigue management strategies

Modification History

Release 1. This is the first release of this unit of competency in the TLI Transport and Logistics Training Package.

Performance Evidence

Evidence required to demonstrate competence in this unit must be relevant to and satisfy all of the requirements of the elements and performance criteria on at least one occasion and include:

- adapting to changes in rosters and standard operating procedures as they relate to fatigue management
- adjusting lifestyle patterns to ensure effective fatigue management during work activities
- applying precautions and required action to minimise and control the effects of fatigue when carrying out own work functions
- applying relevant legislation and workplace procedures
- communicating effectively with others when applying fatigue management strategies
- identifying and meeting own learning needs about fatigue management related matters
- modifying activities and taking appropriate initiatives to manage fatigue in the workplace depending on work contexts, risk situations and environments
- reading and interpreting instructions, procedures, regulations and signs related to fatigue management and applying them to work activities
- recognising symptoms of fatigue and taking appropriate action in accordance with fatigue management regulations and workplace procedures
- working collaboratively with others to manage and minimise the effects of fatigue during work activities.

Knowledge Evidence

Evidence required to demonstrate competence in this unit must be relevant to and satisfy all of the requirements of the elements and performance criteria and include knowledge of:

- causes and effects of fatigue on workers
- factors that increase fatigue-related accidents
- how fatigue affects workplace performance

- how fatigue contributes to workplace accidents
- lifestyles that promote effective long-term fatigue management
- relevant fatigue management codes, regulations, permit and licence requirements
- relevant work health and safety (WHS)/occupational health and safety (OHS) regulations as they relate to fatigue
- risks and hazards created by workplace fatigue
- sources of information on fatigue
- strategies and ways of managing fatigue
- ways of recognising fatigue
- workplace policies and procedures related to fatigue management and the control of factors that can contribute to fatigue and fatigue-related accidents.

Assessment Conditions

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 simulation
- 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>

TLIF2012 Apply safe procedures when handling/transporting dangerous goods or explosives

Modification History

Release 1. This is the first release of this unit of competency in the TLI Transport and Logistics Training Package.

Application

This unit involves the skills and knowledge required to apply safe handling strategies when handling/transporting dangerous goods or explosives.

It includes driving vehicle concerned in a safe manner and consulting with relevant authorities/persons in accordance with regulatory requirements.

Work must be carried out in accordance with relevant Australian and state/territory regulations and codes, including current:

- Australian Code for the Transport of Explosives by Road and Rail (AE Code)
- Australian Dangerous Goods (ADG) Code
- Code for the Safe Transport of Radioactive Material.

Work is performed under limited supervision.

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

Pre-requisite Unit

Not applicable.

Competency Field

F – Safety Management

Unit Sector

Not applicable.

Elements and Performance Criteria

ELEMENTS

Elements describe the essential outcomes.

PERFORMANCE CRITERIA

Performance criteria describe the performance needed to demonstrate achievement of the element.

1 Operate equipment and/or vehicle in a safe manner

- 1.1 Job hazards are identified and required action is taken to minimise, control or eliminate identified hazards
- 1.2 Safety equipment is checked for serviceability and required quantities and types
- 1.3 Equipment/vehicle is operated safely in accordance with the relevant industry regulations, licence/permit requirements/or standards and as directed by police and/or competent authority
- 1.4 Safety guidelines and codes of practice are applied in accordance with workplace procedures
- 1.5 Dangerous goods/explosives/hazardous substances are handled/conveyed in accordance with relevant government regulations and current ADG Code
- 1.6 Relevant emergency procedures are assessed relative to the dangerous goods/explosives/hazardous substances concerned
- 1.7 Emergency procedures are instigated in accordance with current ADG Code, relevant codes of practice and government regulations, to ensure precautions are taken consistent with directions set out in emergency workplace procedures
- 1.8 Procedures are implemented to minimise damage to equipment, facilities and the environment, and to minimise injury to personnel

2 Consult with relevant authorities/persons

- 2.1 Dangerous goods occurrences are reported in specified timeframes to competent authority, fire brigade and/or police using appropriate workplace procedures, in accordance with relevant regulatory requirements
- 2.2 Assistance is provided to competent authority as requested
- 2.3 Other persons within affected emergency area are warned about hazard/s in accordance with workplace procedures as required

- 2.4 Documentation is completed and proofread in accordance with workplace procedures

Foundation Skills

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

Range of Conditions

Range is restricted to essential operating conditions and any other variables essential to the work environment.

Non-essential conditions can be found in the Companion Volume Implementation Guide.

Unit Mapping Information

This unit replaces and is equivalent to TLIF2012A Apply safe procedures when handling/transporting dangerous goods or explosives.

Links

Companion Volume implementation guides are found in VETNet -
<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=df441c6e-213d-43e3-874c-0b3f7036d851>

Assessment Requirements for TLIF2012 Apply safe procedures when handling/transporting dangerous goods or explosives

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
- communicating effectively with others
- completing relevant documentation
- handling/transporting dangerous goods/explosives/hazardous substances safely, in accordance with workplace procedures and regulatory requirements
- identifying characteristics and hazards of dangerous goods/explosives/hazardous substances being handled
- identifying, selecting and using appropriate handling/transportation equipment, vehicles, personal protection equipment and related procedures
- interpreting and following operational instructions and prioritising work
- interpreting relevant signs, placards, labels and codes
- locating, interpreting and applying relevant information
- modifying activities depending on operational contingencies, risk situations and environments
- operating and adapting to differences in handling and transportation equipment in accordance with operating procedures
- reading and interpreting relevant instructions, procedures, information and signs
- reporting and/or rectifying identified problems, faults or malfunctions promptly, in accordance with regulatory requirements and workplace procedures
- selecting and use required personal protective equipment conforming to industry and work health and safety (WHS)/occupational health and safety (OHS) standards.

Knowledge Evidence

Evidence required to demonstrate competence in this unit must be relevant to and satisfy all of the requirements of the elements and performance criteria and include knowledge of:

- characteristics of various dangerous goods, explosives or hazardous substances and their implications for handling and transport
- company incident reporting system and employer responsibility to report incidents to relevant government authority
- compatibility of various types of dangerous goods, explosives or hazardous substances
- emergency management plan
- housekeeping standards and procedures
- relevant Australian and state/territory regulations and codes pertaining to identifying, handling and marking dangerous goods, explosives or hazardous substances including current ADG Code
- risks and hazards when handling and conveying dangerous goods, explosives or hazardous substances, and related precautions to control the risk
- site layout and obstacles
- WHS/OHS procedures and guidelines for lifting and movement of loads
- workplace procedures for handling and transporting dangerous goods, explosives or hazardous substances.

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, current ADG/AE Code, 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>

TLIF3063 Administer the implementation of fatigue management 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 administer the implementation of fatigue management strategies during work operations in a defined workplace in accordance with national and state/territory legislation and relevant regulations.

It includes monitoring the implementation of fatigue management strategies, recognising breaches of fatigue management policies, procedures and regulations, and developing and assessing staff competence in fatigue management.

It also includes providing feedback to staff on shortcomings in their fatigue management skills and knowledge, and reporting to management on the implementation of fatigue management policy.

Work is performed under limited supervision generally as a team leader or supervisor.

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

Pre-requisite Unit

Not applicable.

Competency Field

F – Safety Management

Unit Sector

Not applicable.

Elements and Performance Criteria

Elements describe the essential outcomes.

Performance criteria describe the performance needed to demonstrate achievement of the element.

1 Monitor the implementation of fatigue management strategies

- 1.1 Work activities of employees, subcontractors and suppliers in organisation's products and services supply chain are monitored in accordance with organisation's fatigue risk management implementation plan
- 1.2 Reviews are undertaken of scheduled versus actual hours of work and where a compliance breach is identified, appropriate action is taken to analyse the reasons concerned and to rectify the situation

2 Recognise breaches of fatigue management policies, procedures and regulations

- 2.1 Signs and symptoms of fatigue in employees are identified in accordance with operational procedures
- 2.2 Breaches of fatigue management policies, procedures and regulations in the work activities of employees, subcontractors and suppliers are recognised and reported in accordance with standard procedures
- 2.3 Errors and incidents traceable to non-compliance with fatigue management procedures and regulations are investigated and reported in accordance with operational procedures
- 2.4 Appropriate action is taken in conjunction with employees, subcontractors or suppliers concerned, to ensure ongoing and future compliance with the organisation's fatigue management policy and procedures

3 Develop and assess staff competence in fatigue management

- 3.1 Appropriate training programs and learning resources are developed and provided to ensure employees understand the organisation's fatigue management policies and procedures, and the risks, causes and consequences of fatigue
- 3.2 Employees are assessed to confirm they are competent in understanding the organisation's fatigue management strategies and can apply them to their day-to-day work activities and responsibilities
- 3.3 Deficiencies in employee competence to apply organisation's fatigue management strategies to their work activities are identified, and appropriate learning opportunities are provided to enable employees to achieve required competence

4 Provide feedback to staff on shortcomings in fatigue management skills and knowledge

- 4.1 Evidence of employee shortcomings in implementing fatigue management strategies is obtained and interpreted from observation of signs and symptoms of fatigue in work activities, periodic evaluations of work performance, and assessments of competence carried out as part of training and learning activities
- 4.2 Employees are provided with feedback on identified shortcomings in their implementation of fatigue management strategies, and appropriate support and counselling is provided on how they might address these shortcomings
- 4.3 Further learning opportunities and information are provided to assist employees implement organisation's fatigue management strategies in their area of work activity, as required

5 Report on the implementation of fatigue management policy

- 5.1 Periodic audits of the implementation of fatigue management strategies in the work area/s of responsibility are carried out in accordance with standard procedures
- 5.2 Accidents and safety incidents are investigated and analysed to identify the extent to which fatigue might have been a contributing factor
- 5.3 Reports on implementation of organisation's fatigue risk management system are prepared and submitted to designated personnel in accordance with standard procedures

Foundation Skills

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

Range of Conditions

Range is restricted to essential operating conditions and any other variables essential to the work environment.

Non-essential conditions can be found in the Companion Volume Implementation Guide.

Unit Mapping Information

This unit replaces and is equivalent to TLIF3063A Administer the implementation of fatigue management strategies.

Links

Companion Volume implementation guides are found in VETNet -
<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=df441c6e-213d-43e3-874c-0b3f7036d851>

Assessment Requirements for TLIF3063 Administer the implementation of fatigue management 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:

- adapting to changes in relevant regulations, policies and procedures
- applying relevant legislation and workplace procedures
- assisting employees to identify their own learning needs on matters related to fatigue management
- communicating effectively with others
- modifying activities and taking appropriate initiatives to administer the implementation of organisation's fatigue risk management system depending on contexts, risk situations and environments
- planning and carrying out audits and reviews of organisation's fatigue risk management system
- planning and organising training and learning opportunities for employees on fatigue management and implementing organisation's fatigue risk management system
- reading and interpreting documentation on organisation's fatigue risk management system and related policy, instructions, procedures and regulations and applying this information to supervisory activities
- recognising breaches of fatigue management strategies and regulations and taking appropriate action in accordance with organisation's fatigue risk management system
- working collaboratively with employees and other management staff to implement organisation's fatigue risk management system.

Knowledge Evidence

Evidence required to demonstrate competence in this unit must be relevant to and satisfy all of the requirements of the elements and performance criteria and include knowledge of:

- causes and consequences of fatigue in relation to employees and organisation
- employee and organisation responsibilities for implementing fatigue management

regulations and policies including suppliers and sub-contractors in organisation's services and products supply chain

- factors that increase fatigue-related accidents
- hazards and risks created by fatigue in the workplace
- how fatigue affects workplace performance
- how fatigue contributes to workplace accidents
- lifestyles that promote the effective long-term management of fatigue
- options and resources for providing training and learning opportunities for employees on fatigue management and the implementation of organisation's fatigue risk management system, including initial induction training, in-depth training on fatigue and fatigue management techniques, remedial training where existing competence is assessed as being insufficient and fatigue management refresher training
- organisation's fatigue risk management system and the workplace policies and procedures related to fatigue management, and the control of factors that can contribute to fatigue and fatigue-related accidents
- organisation's fatigue risk management system as it relates to the operational area/s being administered
- procedures for auditing and reviewing organisation's fatigue risk management system, and related policy and procedures for reporting audit outcomes
- processes and resources for assessing employee fatigue management competence
- relevant codes, regulations, permit and licence requirements
- relevant work health and safety (WHS)/occupational health and safety (OHS) regulations
- strategies and ways of managing fatigue
- ways of assisting individuals to assess their own sleep patterns and to evaluate their own fitness for work such as providing information on how to identify sleep disorders and how to obtain appropriate treatment
- ways of providing feedback to employees on identified deficiencies in their competence to implement fatigue management strategies
- ways of recognising fatigue.

Assessment Conditions

As a minimum, assessors must satisfy applicable regulatory requirements, which include requirements in the *Standards for Registered Training Organisations* current at the time of assessment.

As a minimum, assessment must satisfy applicable regulatory requirements, which include requirements in the *Standards for Registered Training Organisations* current at the time of assessment.

Assessment must occur in workplace operational situations where it is appropriate to do so; where this is not appropriate, assessment must occur in simulated workplace operational situations that replicate workplace conditions.

Assessment processes and techniques must be appropriate to the language, literacy and numeracy requirements of the work being performed and the needs of the candidate.

Resources for assessment include:

- a range of relevant exercises, case studies and/or 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>

TLIF3096 Carry out emergency response to a dangerous goods incident

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 carry out an emergency response in a dangerous goods incident.

It includes responding to the incident, controlling and assisting at the site, identifying product being carried, and completing reports and other required documentation in accordance with regulatory requirements and workplace procedures.

Work must be carried out in accordance with work health and safety (WHS)/occupational health and safety (OHS) codes of practice and regulations, transport emergency response plan (TERP) and workplace requirements.

Work is performed under limited supervision. It involves the application of regulatory requirements and workplace emergency response procedures when responding to accidents and emergencies.

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

Pre-requisite Unit

Not applicable.

Competency Field

F – Safety Management

Unit Sector

Not applicable.

Elements and Performance Criteria

ELEMENTS

Elements describe the essential outcomes.

PERFORMANCE CRITERIA

Performance criteria describe the performance needed to demonstrate achievement of the element.

1 Identify incident response procedures	1.1	Company procedures for responding to incidents and emergencies are accessed and explained
	1.2	Procedures for accessing first aid are determined
	1.3	Familiarisation with the use of fire safety equipment is demonstrated
2 Respond to incident	2.1	Nature, extent and degree of incident threat are assessed in accordance with emergency procedures
	2.2	Guides for product being carried are located, and UN number and shipping/technical name are obtained from available documents
	2.3	Resources and vulnerability of situation are analysed
	2.4	Key people and relevant support agencies are identified and notified of incident and product details
	2.5	Instructions and support are sought from key people and support agencies in accordance with emergency procedures and TERP
3 Apply emergency strategies	3.1	Safety and security procedures are complied with in all actions
	3.2	Personal protective equipment (PPE) is selected and used in accordance with requirements of the situation, and WHS/OHS and emergency procedures
	3.3	Welfare of people is guarded and protected as the first priority of any action
	3.4	Exclusion zone is established around incident site
	3.5	Safe access and exit are maintained for emergency services in accordance with emergency procedures and situational analysis
	3.6	Controls are selected and applied to achieve objectives with minimum damage to people and the environment

	3.7	Immediate response to threat or danger to people is provided while preserving personal safety, in accordance with emergency procedures
	3.8	Emergency first aid treatment of minor injuries is carried out correctly and details of treatment administered are reported accurately to incident response leader
4 Communicate with and complement other personnel	4.1	Effective communication and documentation with key people and support agencies are constantly maintained
	4.2	Activities are consistent with incident response leader's plan of action
	4.3	Work of other key people and support agencies is supported by own actions
5 Monitor the environment and the incident	5.1	Factors that may create or increase risk of injury or damage are constantly assessed and reported to incident response leader
	5.2	Hazard controls are monitored to ensure continued effectiveness
	5.3	Own and others' health and morale are monitored and maintained
	5.4	Changes in conditions and behaviour are identified and reported
6 Assist with recovery from incident	6.1	Evidence relating to incident cause is preserved and recorded as far as possible
	6.2	Appropriate assistance is provided in accordance with emergency procedures
	6.3	Emergency equipment is returned to a state of readiness as soon as is reasonably possible
	6.4	Debriefings are attended and participated in as required

Foundation Skills

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

Range of Conditions

Range is restricted to essential operating conditions and any other variables essential to the work environment.

Non-essential conditions can be found in the Companion Volume Implementation Guide.

Unit Mapping Information

This unit replaces and is equivalent to TLIF3096A Carry out emergency response to a dangerous goods incident.

Links

Companion Volume implementation guides are found in VETNet -
<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=df441c6e-213d-43e3-874c-0b3f7036d851>

Assessment Requirements for TLIF3096 Carry out emergency response to a dangerous goods incident

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 own responsibilities in accordance with company procedures
- collecting evidence of:
 - workplace documentation
 - load documentation
 - incident details
- identifying and describing an incident clearly
- re-stowing emergency equipment
- selecting and using personal protective equipment (PPE) and clothing safely and effectively under emergency conditions
- using effective communication skills during emergencies
- using emergency equipment including:
 - emergency shutdown controls
 - evacuation controls
 - spill control equipment
 - eye wash equipment and safety showers
 - fire extinguishers
- using PPE and safety measures including:
 - chemical resistant gloves
 - safety headwear and footwear
 - safety glasses
 - intrinsically safe, full cover protective clothing
 - high visibility clothing and safety vest
 - evacuation controls
 - two-way radio.

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:

- applicable legislative and company procedures and codes
- appropriate PPE and clothing
 - current Australian Dangerous Goods (ADG) Code
- documents and records including
 - emergency information procedure (EIP)
 - emergency procedures guide (EPG)
 - environmental protection legislation and regulations
 - fatigue management regulations
- emergency equipment operating characteristics, limitations, hazards, precautions, procedures and general care
- general emergency priorities and strategies
- hazard analysis techniques
- hazards and precautions necessary during control activities
- organisational emergency procedures:
 - relevant Australian Standards and certification requirements
 - relevant internal data entry books, including logbooks, data sheets and load sheets
 - relevant state/territory road rules and roads and traffic authority driving regulations and licence or permit requirements for operating heavy vehicles on unsealed roads
 - workplace operating procedures
- survival, rescue and recovery procedures
- tactics for safely handling emergencies involving dangerous goods including:
 - transport emergency response plan (TERP)
 - transport regulations as they apply to the enterprise, including local authority regulations and procedures
 - work health and safety (WHS)/occupational health and safety (OHS) legislation
 - workplace policies and 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, TERP, 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>

TLIF4065 Ensure compliance with Australian Dangerous Goods Code

Modification History

Release 1. This is the first release of this unit of competency in the TLI Transport and Logistics Training Package.

Application

This unit involves the skills and knowledge required to ensure compliance with the current Australian Dangerous Goods (ADG) Code as part of work undertaken in various contexts within the transport and logistics industry.

It includes ensuring responsibilities for handling and transporting dangerous goods are defined, managing performance and controlling risks, maintaining records and evaluating effectiveness.

The unit generally applies to those who lead 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

F – Safety Management

Unit Sector

Not applicable.

Elements and Performance Criteria

ELEMENTS

Elements describe the

PERFORMANCE CRITERIA

Performance criteria describe the performance needed to

essential outcomes.

demonstrate achievement of the element.

1 Ensure responsibilities for handling dangerous goods are defined	1.1 Responsibilities and duties for transporting and handling dangerous goods are clearly defined, allocated and included in job descriptions and duty statements for all relevant positions 1.2 Any relevant licensing requirements for employees are confirmed
2 Manage performance and control risks	2.1 Ongoing system for controlling risks based on a hierarchy of control is developed, and is integrated within general work procedures 2.2 Measures to control assessed risks and to monitor conformance are developed and implemented, in accordance with relevant dangerous goods transport regulations, code of practice and workplace priorities 2.3 Non-conformance is investigated and procedures for rectification are instituted 2.4 Inadequacies in dangerous goods transport procedures are identified and measures are implemented to improve workplace practice
3 Maintain records	3.1 Dangerous goods records system is established in accordance with relevant legislative framework 3.2 Accurate and legible records for operation within the workplace are completed in accordance with dangerous goods transport enterprise policies and legislative requirements
4 Evaluate effectiveness	4.1 Feedback about effectiveness of dangerous goods transport policies, procedures and programs is collected from work group and is provided to senior management 4.2 Improvements to dangerous goods transport procedures are proposed to senior 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.

Unit Mapping Information

This unit replaces and is equivalent to TLIF4065A Ensure compliance with Australian Dangerous Goods Code.

Links

Companion Volume implementation guides are found in VETNet -
<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=df441c6e-213d-43e3-874c-0b3f7036d851>

Assessment Requirements for TLIF4065 Ensure compliance with Australian Dangerous Goods Code

Modification History

Release 1. This is the first release of this unit of competency in the TLI Transport and Logistics Training Package.

Performance Evidence

Evidence required to demonstrate competence in this unit must be relevant to and satisfy all of the requirements of the elements and performance criteria on at least one occasion and include:

- communicating effectively with others
- complying with applicable regulations and current Australian Dangerous Goods (ADG) Code
- complying with workplace documentation and current ADG Code
- identifying hazards and applying precautions and required action to minimise, control or eliminate identified hazards
- implementing contingency plans, particularly to deal with any potential ADG Code breaches
- modifying activities depending on operational contingencies, risk situations and environments
- monitoring work activities of team members in terms of planned schedule
- reading and interpreting current ADG Code, related documents and procedures, and information and materials provided as guidance notes
- using effective communication techniques
- working collaboratively with others to ensure compliance with health and safety requirements, and current ADG Code.

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:

- relevant required documentation
- relevant sections of national and state/territory regulatory requirements and codes of practice, including current ADG Code, conditions and duty holders to whom it applies
- relevant work health and safety (WHS)/occupational health and safety (OHS) and environmental procedures and regulations particularly as they overlap with the current ADG Code
- workplace procedures for:

- emergency management plan
- managing and controlling hazardous situations when carrying out work activities
- safe transfer and storage of dangerous goods and hazardous materials
- transport emergency response plan (TERP).

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, current ADG Code, 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>

TLIF4066 Implement and supervise transport regulations compliance 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 and supervise transport regulations compliance systems within the transport and logistics industry.

It includes identifying and interpreting relevant regulations, carrying out operations that comply with transport regulations and reviewing operation process.

The unit generally applies to those who lead 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

F – Safety Management

Unit Sector

Not applicable.

Elements and Performance Criteria

ELEMENTS

Elements describe the essential outcomes.

PERFORMANCE CRITERIA

Performance criteria describe the performance needed to demonstrate achievement of the element.

1 Identify and interpret relevant regulations	1.1	Types of goods to be transported are correctly identified in accordance with workplace procedures and regulatory requirements
	1.2	Sources of relevant state/territory transport regulations are identified
	1.3	Information is accessed about state/territory transport regulations
	1.4	Information is accurately interpreted
	1.5	Responsibilities and duties are clearly identified in accordance with state/territory regulations for transporting goods
2 Carry out operations complying with transport regulations	2.1	Procedures for transporting goods are carried out in accordance with requirements for type of goods
	2.2	Activities are carried out in accordance with industry regulations, codes of practice or guidelines, and work health safety (WHS)/occupational health and safety (OHS), environmental and enterprise legislation, policies and procedures
	2.3	Hazards are identified, risks are assessed and control measures are implemented
	2.4	Accurate and legible records for operation within the workplace are completed in accordance with transport regulations, and enterprise policies and legislative requirements
	2.5	Compliance with transport regulations and codes of practice are assessed to ensure legal requirements are maintained as a minimum and exceeded where possible
3 Review operations in accordance with transport regulations	3.1	Improvements to transport procedures are identified
	3.2	Improvements to effectiveness of transport regulations, policies, procedures and programs are suggested
	3.3	Compliance with transport regulations is assessed and modifications are made as required

Foundation Skills

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

Range of Conditions

Range is restricted to essential operating conditions and any other variables essential to the work environment.

Non-essential conditions can be found in the Companion Volume Implementation Guide.

Unit Mapping Information

This unit replaces and is equivalent to TLIF4066A Implement and supervise transport regulations compliance systems.

Links

Companion Volume implementation guides are found in VETNet -
<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=df441c6e-213d-43e3-874c-0b3f7036d851>

Assessment Requirements for TLIF4066 Implement and supervise transport regulations compliance 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 precautions and required action to minimise, control or eliminate identified hazards
- applying relevant legislation and workplace procedures
- communicating effectively with others
- completing relevant documentation
- interpreting and following operational instructions and prioritising work
- reading and interpreting relevant instructions, procedures, information and signs, including the relevant parts of transport regulations, or related implementation materials
- reporting and/or rectifying identified problems, faults or malfunctions promptly, in accordance with regulatory requirements and workplace procedures
- selecting and using required personal protective clothing and equipment conforming to industry and work health and safety (WHS)/occupational health and safety (OHS) standards
- 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:

- emergency procedures
- procedures for managing and controlling hazardous situations when carrying out work activities
- relevant sections of Heavy Vehicle National Law (HVNL) and transport regulations as they apply to the enterprise including:
 - chain of responsibility duty holders
 - fatigue management
 - mass, dimension and loading
 - state/territory and national regulations
 - vehicle standards
- relevant WHS/OHS and environmental procedures and regulations
- requirements for completing relevant documentation
- steps involved in planning transport 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, vehicle standards, HVNL, 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>

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.

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.

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>

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

- 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>

TLILIC0001 Licence to transport dangerous goods by road

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 obtain a dangerous goods (DG) driver licence to transport DG by road.

The unit covers compliance with regulatory requirements but does not address all the skills and knowledge for the transportation of DG. On achieving this unit and obtaining a licence, further industry specific training will be required to satisfy legislative requirements to transport DG.

The primary legislative requirement applicable to this unit of competency is the Model Subordinate Law on the Transport of Dangerous Goods by Road or Rail, which is reflected in state/territory legislation.

This law, in relation to the safe transport of DG, references the current version of the Australian Dangerous Goods (ADG) Code, the Model Act on the Transport of Dangerous Goods by Road and Rail, relevant Australian Standards (AS) and relevant work health and safety (WHS)/occupational health and safety (OHS) legislation including licensing and assessment requirements.

Achieving this unit of competency is a necessary requirement for obtaining a licence. However, it is only one of several criteria for obtaining a DG driver licence. More information can be sourced from the regulator in each jurisdiction regarding other criteria that apply, which can vary between states and territories. Compliance with these requirements may be required nationally and/or in specific jurisdictions.

Pre-requisite Unit

Not applicable.

Competency Field

LIC – Licensing

Unit Sector

Not applicable.

Elements and Performance Criteria

ELEMENTS

Elements describe the essential outcomes.

PERFORMANCE CRITERIA

Performance criteria describe the performance needed to demonstrate achievement of the element.

1 Identify individual organisations and systems for the transport of dangerous goods	1.1	Responsibilities and duties for the transport of DG are clearly outlined
	1.2	Systems, organisations, and people who impact on the transport of DG are identified
2 Identify UN numbers, classes and divisions of dangerous goods including packing groups and categories of dangerous goods	2.1	Proper shipping names and other relevant information from the DG Lists are identified
	2.2	UN class and division labels for DG are determined in accordance with the ADG Code and regulatory requirements
	2.3	Packing groups and categories for DG are identified and confirmed as required
	2.4	DG List is used to identify packing instructions and special provisions
	2.5	Goods that are too dangerous to transport are identified
	2.6	Hazards of commonly transported DG are identified
	2.7	Placard loads are determined from ADG Code criteria and regulatory requirements for the transport of placard loads are identified
3 Maintain dangerous goods documentation	3.1	Transport documentation is completed accurately and is amended as required in accordance with the ADG Code, regulatory requirements and enterprise procedures
	3.2	Requirements for the correct placement of transport documentation in the cabin are explained
4 Plan and manage safe transport of dangerous goods	4.1	Regulatory requirements for carrying passengers while transporting DG are identified
	4.2	Prohibited practices and the carrying of prohibited objects

		during transport are identified
	4.3	Regulatory requirements for planning routes covering driving, parking, loading and unloading, uncoupling and/or securing the vehicle are explained
	4.4	Transport routes are checked to ensure prohibited areas are avoided and restricted routes are identified
	4.5	Regulatory requirements for transporting empty or nominally empty DG packaging are identified in accordance with the ADG Code
	4.6	Regulatory requirements and driver role in vehicle breakdown situations are appropriately identified
5	Check all safety equipment and its serviceability	
	5.1	Safety equipment, including personal protective equipment (PPE), is determined and selected in accordance with the type of DG being transported, the ADG Code and regulatory requirements
	5.2	Suitability and serviceability of all safety equipment, including PPE, is identified
6	Check vehicle and assess suitability of transport mode for intended load	
	6.1	Suitability of the vehicle to carry DG is assessed
	6.2	Suitability of DG packaging is checked to ensure it is fit for purpose
	6.3	Ullage in large compartments is assessed for compliance with the ADG Code
	6.4	Transport documentation is checked to ensure DG markings and vehicle placards are consistent with the load being carried, are legible and are clearly visible, in compliance with the ADG Code
	6.5	DG loads are checked for compatibility and segregation in accordance with regulatory requirements
	6.6	Load restraint methods and equipment for transporting DG are identified in accordance with the ADG Code and the National Transport Commission (NTC) Load Restraint Guide
	6.7	Special transport operations are checked in accordance with the ADG Code
7	Follow emergency procedures	
	7.1	HAZCHEM codes are explained and assigned for a range of DG loads

	7.2	Emergency information required for types of DG being transported is appropriately identified and provided to relevant personnel and emergency services as requested
	7.3	Driver role and obligations in an emergency situation are identified within a Transport Emergency Response Plan (TERP) and any equipment for containment, clean up or recovery is identified within the plan
8 Plan, control and manage transfer of dangerous goods	8.1	Positioning of vehicle for DG bulk transfer is planned in accordance with the ADG Code
	8.2	Suitable safety measures for the transfer of all classes DG being transferred are identified in accordance with the ADG Code
	8.3	Appropriate transfer equipment is selected for the task and adequate lighting levels are provided in accordance with the ADG Code
	8.4	Responsibilities of driver during transfer of DG are identified in accordance with the ADG Code
	8.5	Emergency procedures, in a spill or leak incident, during transfer, are identified and implemented in accordance with the ADG Code
	8.6	Hoses used to transfer DG are appropriately identified, tested and used in accordance with the ADG Code

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 but is **not** equivalent to TLILIC3013A Preparation to transport dangerous goods by road.

Links

Companion Volume implementation guides are found in VETNet -
<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=df441c6e-213d-43e3-874c-0b3f7036d851>

Assessment Requirements for TLILIC0001 Licence to transport dangerous goods by road

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:

- assessing ullage compliance with the Australian Dangerous Goods (ADG) Code
- assigning HAZCHEM codes for a range of dangerous goods (DG) loads
- checking and amending DG transport documentation
- checking transport routes for suitability using a variety of methods
- completing and amending appropriate documentation as required
- determining proper shipping names for UN numbers
- determining the correct vehicle placarding for co-transport of multiple consignments identified by transport documents
- identifying and deciding what combination of DG labels and emergency information panels (EIPs) is required
- identifying packing groups and implications for transport of DG
- identifying required information on an emergency procedure guide
- identifying the primary hazards for common substances
- **identifying UN numbers, UN classes and divisions of DG including packing groups and categories**
- interpreting the meaning of a range of HAZCHEM codes
- locating information within the ADG Code and National Transport Commission (NTC) Load Restraint Guide
- locating regulatory procedure for carrying passengers
- locating the special provisions and associated instructions in the DG List
- making decisions about suitability to drive vehicle
- matching the primary hazard with the appropriate Class or Division
- selecting appropriate segregation method for incompatible DG
- selecting safety equipment effectively and in accordance with regulatory requirements
- stating the threshold for different Classes/Divisions of DG at which vehicle placarding, emergency procedures guide (EPGs), segregation, load restraint and Transport Emergency Response Plan (TERP) becomes mandatory
- using the ADG Code to identify compatible and incompatible combinations of goods

- using the DG List.

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:

- ADG code requirements for transporting nominally empty DG packaging
- appropriate communications strategies and equipment
- appropriate placarding of vehicles – rigids, combinations, tankers, freight containers, packaged plus placardable units, import/export markings, International Maritime Dangerous Goods (IMDG) Code
- appropriate ullage in large compartment tanks as per the ADG code
- common terms for transporting DG by road
- damaged and defective packages
- definitions for classifying a packaging as an IBC or pressure vessel or multiple element gas container (MEGC) or portable tank or road tanker or bulk container or freight container
- DG identification and classification
- differentiating and following the rules for empty containers
- driver, employer (prime contractor) and members' of the organisations responsibilities when transporting DG by road including:
 - DG transfer activities
 - TERP
 - vehicle breakdowns
- empty containers
- format for proper shipping names
- hose maintenance and testing
- how to access information from a compliance plate from an intermediate bulk container (IBC), portable tank and freight container for identification
- how to assess operational suitability of equipment and vehicles for DG transportation
- how to assess suitability and serviceability of safety equipment including personal protective equipment (PPE)
- how to assess suitability of lighting levels
- how to compare a new package to a damaged package and how to decide on what action to take
- how to determine the placard load level for mixed class loads of DG

- how to identify hazards and how to plan work to minimise risks when transporting DG
- how to identify other persons, organisations and systems involved in the transport of DG by road
- how to identify the common responsibilities drivers share with consignors
- how to identify the regulatory requirements that apply to the transport of placard loads
- how to identify the vehicle placarding threshold for each Class/Division of DG
- how to recognise UN packaging specification
- how to report accidents, incidents or potential difficulties promptly, in accordance with legislation
- how to select appropriate equipment and work systems to enable safe, efficient work
- how to undertake hose assessment, maintenance and testing activities
- load restraint methods for transporting DG
- methods for bulk transfer
- methods of segregation – vehicles, cargo transport units and segregation devices
- methods to select suitable vehicle:
 - as a road vehicle to transport a freight container, portable tank or bulk; container fitted with corner castings – fitted with twist locks or other equipment for securing
 - as a road vehicle to transport a demountable tank or bulk container without corner castings and fitted with devices to secure the container
 - as a tank vehicle (in accordance with the relevant Section of the ADG Code)
 - for transporting goods
 - that it is clean
 - that is free of any defect that is likely to create a risk in transporting goods
- overpacks and how they are used
- primary hazards with Class or Division
- prohibited practices and objects
- rationale for correct vehicle positioning
- rationale for placing transport documentation in the cabin
- regulatory procedures for:
 - driving
 - loading
 - parking
 - planning routes
 - securing vehicle
 - uncoupling
 - unloading
- regulatory procedures for carrying passengers
- relevant emergency information procedures in an accident or incident
- relevant personnel and emergency services
- relevant safety equipment and PPE
- requirements of each individual and organisation to carry out their tasks safely
- role and function of a TERP

- role and purpose of DG transport documentation
- role and purpose of packing groups
- role and responsibilities of each member in the system and organisations related to transporting DG
- role, format and function of HAZCHEM codes
- role, purpose and location of DG Lists including special provisions and instructions it contains
- role, serviceability and use of safety equipment when transporting DG
- role, types and formats of transport documentation requirements as required by regulators
- segregation principles based on Class/ Division
- special segregation provisions
- special transport considerations, including:
 - decontamination of freight containers, prior to removal of placarding for Div. 6.1
 - dry conditions (i.e. exclusion of water) for Div. 4
 - temperature control in refrigerated units for Div. 4.1/5.2
 - ventilation of cargo transport units for Div. 2.1/2.3
- transfer activities, hazards and related emergency procedures
- transport routes, including prohibited areas and restricted routes
- types and functions of safety measures for transferring DG
- types of load restraint equipment
- types of transfer equipment
- UN Classes
- UN Division labels and their use
- where to locate specific load restraint information.

Assessment Conditions

Assessors

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 and:

- have at least 5 years relevant DG industry and operational experience or Competent Authority (i.e. the regulator for transporting DG) agreed relevant transport training experience
- meet any additional mandatory skills or qualifications required by the Competent Authority
- pass an assessment test approved by the Competent Authority.

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 through suitable scenarios and where possible, 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
- Mandatory Assessment Instrument (MAI)
- relevant materials, tools, equipment and personal protective equipment currently used in industry.

Mandated Assessment Instrument

Registered Training Organisations must contact their Competent Authority to obtain a copy of the MAI.

The assessor must use the MAI to conduct the summative competency assessment.

The MAI must be used in accordance with its directions as specified.

Evidence of competence is established using the MAI, which involves responses to questions about knowledge and an assessment of responses to practical scenario-based problems.

Links

Companion Volume implementation guides are found in VETNet -

<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=df441c6e-213d-43e3-874c-0b3f7036d851>

TLILIC0002 Licence to operate a vehicle loading crane (capacity 10 metre tonnes and above)

Modification History

Release 2. This is the second release of this unit of competency in the TLI Transport and Logistics Training Package:

- Minor statement changes in unit Application
- Minor changes and re-ordering of Performance Evidence
- Minor changes and re-ordering of Knowledge Evidence
- Minor statement changes in Assessment Conditions.

Release 1. This is the first release of this unit of competency in the TLI Transport and Logistics Training Package.

Application

This unit specifies the skills and knowledge required to safely operate a vehicle loading crane with a Maximum Rated Capacity (MRC) of 10 metre tonnes or more. Competence in this unit, does not in itself result in a High Risk Work Licence (HRWL) to operate this plant.

Vehicle loading crane means a crane mounted on a vehicle for loading and unloading the vehicle.

A person undertaking this unit must hold:

- a current National HRWL to perform dogging or a current certification for a specific VET course for HRWL to perform dogging that has been issued by, or on behalf of a WHS Regulator.

A person performing this work is required to hold a vehicle loading crane HRWL.

This unit requires a person operating a slewing vehicle loading crane with an MRC of 10 metre tonnes or more to:

- plan for the work/task
- prepare for the work/task
- perform work/task
- pack up

Licensing/Regulatory Information

Legislative and regulatory requirements are applicable to this unit of competency.

This unit is based on the licensing requirements of Part 4.5 of the Model Work Health and Safety (WHS) Regulations and meets Commonwealth, State and Territory HRWL requirements.

The National Assessment Instrument (NAI) is the mandated assessment for the HRWL to operate the relevant licencing class as detailed in this unit.

Pre-requisite Unit

Not applicable

Competency Field

LIC - Licencing Units

Unit Sector

Not applicable

Elements and Performance Criteria

ELEMENTS

PERFORMANCE CRITERIA

Elements describe the essential outcomes.

Performance criteria describe the performance needed to demonstrate achievement of the element.

1 Plan work/task

- 1.1 Task requirements are identified from work orders or equivalent and a lift plan is confirmed with associated personnel and a site inspection is conducted in accordance with workplace procedures
- 1.2 Work area operating surface is confirmed to determine the quality of ground suitability for operational use of vehicle loading crane in accordance with workplace procedures
- 1.3 Vehicle loading crane rated capacity (RC) and the lifting gear Working Load Limit (WLL) are established for the load/s and work/task requirements in accordance with manufacturer requirements and workplace procedures
- 1.4 Appropriate paths for operating the vehicle loading crane and moving and placing load/s in work area are assessed and determined in accordance with workplace procedures
- 1.5 Relevant hazard identification and risk elimination/control measures are applied and advised to associated personnel in accordance with workplace procedures

		1.6	Traffic management plan implementation is confirmed and followed in accordance with workplace procedures
		1.7	Appropriate communication procedures are identified and tested with associated personnel in accordance with workplace procedures
		1.8	All tasks are confirmed to ensure requirements for the relevant work area in accordance with workplace procedures
2	Prepare for work/task	2.1	Consultation with workplace personnel is established and maintained to ensure all crane and lifting operations are clear and consistent with site requirements in accordance with a lift plan and workplace procedures
		2.2	Risk control measures for hazards identified are checked for implementation in accordance with the lift plan and safe work procedures
		2.3	Vehicle loading crane controls are accessed safely in accordance with manufacturer requirements and safe work procedures
		2.4	Pre-start vehicle loading crane checks are carried out and any damage and defects are reported, recorded and appropriate action is taken in accordance with safe work procedures and manufacturer requirements
		2.5	Vehicle loading crane is set up correctly with any lifting gear as per the lift plan in accordance with relevant manufacturer requirements including load chart/s and safe work procedures
		2.6	Boom/jib and lifting gear are set up as required in accordance with specific manufacturer requirements and safe work procedures
		2.7	Vehicle loading crane is stabilised appropriately in accordance with the lift plan, relevant manufacturer requirements and safe work procedures
		2.8	Operational checks are carried out and any damage and defects are reported, recorded and appropriate action is taken in accordance with manufacturer requirements and safe work procedures

3	Perform work/task	2.9	Vehicle loading crane logbook is inspected and is correct for the crane type, is completed and signed and required rectifications have been signed off in accordance with manufacturer requirements and safe work procedures
		2.10	Weather and work environment conditions are assessed to determine any impact on vehicle loading crane operations in accordance with manufacturer requirements and safe work procedures
		3.1	Lifts are determined within the RC of the vehicle loading crane in accordance with the load chart/s and lift plan
		3.2	Boom/jib and hook block are safely positioned over the load following directions from associated personnel in accordance with the lift plan and safe work procedures
		3.3	Lifting gear is connected to the load and used safely in accordance with the lift plan, safe work procedures and manufacturer requirements
		3.4	Test lift is carried out in accordance with dogging and safe work procedures
		3.5	Loads are transferred using relevant crane movements and tag lines as required, in accordance with lift plan and safe work procedures
		3.6	Load and crane movement is monitored constantly and crane is operated safely in accordance with lift plan and safe work procedures
		3.7	All required communication signals are correctly interpreted and followed whilst crane is operated in accordance with the lift plan and safe work procedures
		3.8	Load is lowered and landed safely in accordance with lift plan and safe work procedures
		3.9	Lifting gear is disconnected from load and crane is positioned safely and efficiently for next task in accordance with lift plan and safe work procedures

4 Pack up

- 4.1** Crane boom/jib, lifting gear and associated equipment is stowed and secured as required in accordance with manufacturer requirements and safe work procedures
- 4.2** Relevant motion locks and brakes are applied as required in accordance with manufacturer requirements and safe work procedures
- 4.3** Stabilisers are stowed and secured in accordance with manufacturer requirements and safe work procedures
- 4.4** Crane is shut down and secured to prevent unauthorised access/use in accordance with safe work procedures
- 4.5** Plates or packing are stowed and secured in accordance with safe work procedures
- 4.6** Shut down crane checks are carried out in accordance with safe work procedures and manufacturer requirements

Foundation Skills

Foundation skills essential to performance are explicit in the performance criteria of this unit of competency

Range of Conditions

Range is restricted to essential operating conditions and any other variables essential to the work environment.

Non -essential conditions may be found in the Companion Volume Implementation Guide.

Unit Mapping Information

This unit replaces and is equivalent to TLILIC0012 Licence to operate a vehicle loading crane (capacity 10 metre tonnes and above)

Links

Companion Volume Implementation Guide -

<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=df441c6e-213d-43e3-874c-0b3f7036d851>

Assessment Requirements for TLILIC0002 Licence to operate a vehicle loading crane (capacity 10 metre tonnes and above)

Modification History

Release 2. This is the second release of this unit of competency in the TLI Transport and Logistics Training Package:

- Minor statement changes in unit Application
- Minor changes and re-ordering of Performance Evidence
- Minor changes and re-ordering of Knowledge Evidence
- Minor statement changes in Assessment Conditions.

Release 1. This is the first release of this unit of competency in the TLI Transport and Logistics Training Package.

Performance Evidence

Evidence required to demonstrate competence in this unit must be relevant to and satisfy all the requirements of the elements and performance criteria on at least one occasion and include:

- applying relevant communication signals from associated personnel
- applying relevant crane movements including:
 - boom/jib up and down (luffing)
 - catching load swing appropriately
 - positioning and using main hook and lifting gear to connect to load safely
 - raise and lower hoist
 - slew boom/jib
 - telescope in and out
- applying relevant mathematical calculations in conjunction with lift plan and load chart to determine radius requirements and relevant lifting gear to perform work/task to enable crane to be configured for load including:
 - boom
 - Stabiliser positioning
 - type of hook
- carrying out operational checks ensuring:
 - all controls are located, identified and tested for functionality
 - all hydraulic functions are operated
 - lifting gear movements and control functions are smooth and comply with lift plan
 - hazard warning systems, safety, audible and visual warning devices are checked for to ensure they are functional including:
 - reversing beepers

- lights
 - horns
- start-up is in accordance with manufacturer requirements and safe work procedures
- there are no unusual noises
- crane control functions comply with operating requirements
- communicating with other associated personnel through using appropriate worksite procedures which including:
 - 2-way radio
 - active listening
 - demonstrating and interpreting hand signals
 - questioning to confirm understanding
 - signage
 - whistles
 - written instructions
- completing the pre-start check including:
 - engine / mechanical fluid level checks as required by manufacturer requirements
 - presence of correct logbook
 - evidence of damage
 - fluid leaks
 - lights work effectively
 - locating, identifying and confirming all controls
 - fire extinguisher
 - safety equipment checks
 - signage and labels to ensure they are visible and legible
 - checking for signs of paint separation and stressed welds indicating potential structural weakness
 - tyres and wheels for damage/wear and correct inflation
 - updating records as required
 - visual damage or equipment faults
- complying with Commonwealth, state and territory Work Health and Safety (WHS)/Occupational Health and Safety (OHS)/Occupational Safety and Health (OSH) legislation
- conducting and applying risk and hazard assessment strategies including:
 - confirming work area operating surface suitability based on crane and task requirements
 - dynamic loads
 - ground conditions including condition of surface and slopes
 - load swing
 - overloading
 - lifting and placing load
 - tyre pressures and tyre condition

- asymmetric loads
- overhead hazards including electric lines and service pipes
- restricted and poorly ventilated areas
- risk of collision with people, moving plant and fixed structures
- adequate lighting
- traffic including pedestrians, vehicles and other plant
- weather conditions
- confirming and following traffic management plan procedures relevant to their role in the work area
- determining any defects or faults with operation of crane and reporting to relevant person/s
- ensuring risk control measures within the work area are effective as per workplace procedures
- identifying, isolating, and tagging out defective lifting equipment and reporting to authorised person/s
- interpreting and confirming relevant documentation for the work task and relevant area
- maintaining three points of contact whilst accessing load surface area of vehicle loading crane and ensure rungs / steps are free of hazards
- monitoring load disconnection from hook is safe and ensuring no movement of controls
- operating a vehicle loading crane configured to its rated capacity (RC) of 10 metre tonnes or more to lift and move four different loads using the main hook through an obstacle course using all crane operational controls while the load is in full view of the crane operator. Loads must consist of:
 - a load of >50% of the Rated Capacity (RC) of the crane with a boom length of >75%, and
 - a round load with a minimum diameter of 300 mm and minimum length of 3 m that requires a dogger to sling, and
 - an asymmetrical load that requires a dogger to sling, and
 - stillage containing at least ten scaffolding standards or containing a load of steel pipes of equivalent weight that requires a dogger to sling
- positioning the vehicle loading crane for safe operation for:
 - application of the task
 - manoeuvring in the workplace
 - stability of the vehicle loading crane and the load
- positioning vehicle loading crane in relevant area for next task
- recording and maintaining accurate information relating to crane operations
- reporting to relevant person/s on site risk control measures that are not in place or deficient
- setting up and validating an exclusion zone
- shutting down a vehicle loading crane in accordance with manufacturer requirements and safe work procedures
- stabilising a vehicle loading crane for operation by:
 - correctly positioning plates or packing
 - deploying stabilisers
 - establishing correct size plates or packing in accordance with lift plan

- levels are checked
- test-lifting load just clear of lifting plane to allow for checks to be safely made in consultation with associated personnel (dogger or rigger) to ensure:
 - slinging is correct
 - all crane equipment is functioning properly
 - load centre of gravity is correct
 - loads of unusual shape or weight distribution are correctly slung
- using communications signals including:
 - hoist down - hand and whistle and radio
 - hoist up - hand and whistle and radio
 - luff boom down - hand and whistle and radio
 - luff boom up - hand and whistle and radio
 - slew left - hand and whistle and radio
 - slew right - hand and whistle and radio
 - stop - hand and whistle and radio
 - telescope in - hand and whistle and 2-way radio (where manufacturer requirements allow)
 - telescope out - hand and whistle and 2-way radio (where manufacturer requirements allow).

Knowledge Evidence

Evidence required to demonstrate competence in this unit must be relevant to and satisfy all of the requirements of the elements and performance criteria and include knowledge of:

- appropriate worksite communication procedures including:
 - listening
 - hand signals
 - questioning techniques
 - signage
 - two-way radios
 - written instructions
 - whistles
- characteristics and impact of factors affecting vehicle loading crane stability whilst moving loads including:
 - overloading
 - poor load placement
 - asymmetric loads
 - tyre deflation/condition
- crane, lifting gear load chart/s and manufacturer requirements
- hazards including:
 - pack up and crane stability, crane tipping and demolition sites

- ground stability including ground condition, recently filled trenches and slopes
- insufficient lighting
- obstacles or obstruction
- other specific hazards and dangerous materials
- overhead hazards including:
 - electric lines
 - service pipes
 - fixed structures
 - vegetation (trees)
- traffic including pedestrians, vehicles and other plant
- operations on unusual, uneven or difficult terrains
- lift impacting factors including:
 - centre of gravity
 - dynamic nature of load
 - flex/deflexion of load
 - length
 - radius of lift
 - weight
- manufacturer requirements on stabiliser procedures
- manufacturer requirements and instructions on shutting down and packing up crane
- mathematical calculations to:
 - estimate loads
 - radius requirements
 - relevant lifting gear to perform work/task
- prestart and operational checks required for a vehicle loading crane
- problems and appropriate response procedures to unplanned and/or unsafe situations and environmental conditions
- relevant documentation requirements and procedures for recording, reporting and maintaining workplace records and information
- relevant workplace instructions, safety information, emergency procedures
- risk assessment management and mitigation strategies including hierarchy of control:
 - elimination
 - substitution
 - isolation
 - engineering controls
 - administrative controls
 - personal protective equipment (PPE)
- roles and responsibilities of duty holders as per legislative obligations of Work Health and Safety (WHS)/Occupational Health and Safety (OHS)/Occupational Safety and Health (OSH) requirements and safe work / workplace procedures
- stability of load and avoidance of hazards using best crane practice including:

- allowing for boom deflection
- boom/jib as low as possible
- crane stability
- gently accelerating and braking on slew/boom to minimise load swing
- lowering load safely onto appropriate dunnage taking into consideration swing and restrictions of area
- minimum boom/jib length
- minimum speed
- using handheld taglines as required
- identification of incorrect sling of load
- starting procedure of crane as per manufacturer requirements
- set up of:
 - jib
 - fly jib (where fitted)
- vehicle loading crane characteristics and capabilities to allow crane configuration to suit a range of loads
- weather bureau forecasts and environmental conditions that could impact operation including:
 - lightning
 - wind
 - water impacted ground
 - Ultra Violet (UV) exposure
- work area suitability based on relevant ground reports including:
 - backfilled ground
 - bitumen
 - concrete
 - hard compacted soil
 - pre-contaminated soils
 - rock
 - rough uneven ground
 - soft soils
- workplace standards, requirements, policies and procedures for conducting operations for the vehicle loading crane.

Assessment Conditions

Assessors must hold credentials specified within the Standards for Registered Training Organisations current at the time of assessment.

Assessment must satisfy the Principles of Assessment and Rules of Evidence and all regulatory requirements included within the Standards for Registered Training Organisations current at the time of assessment.

Assessment processes and techniques must be appropriate to the language, literacy and numeracy requirements of the work being performed and the needs of the candidate.

Assessment must occur in workplace operational situations. Where this is not appropriate, assessment must occur in simulated workplace operational situations that reflect workplace conditions.

- Simulators must not be used in the assessment of this unit of competency.

Resources for assessment that must include access to:

- vehicle loading crane with a RC of 10 metre tonnes or more in safe/serviceable working order in accordance with manufacturers specifications
- appropriate loads as outlined in the performance evidence requirements
- appropriate personnel to sling and direct loads including:
 - dogger or rigger
- communications equipment including:
 - two-way radios
 - whistles
- relevant personal protective equipment (PPE)
- relevant documentation for operating a vehicle loading crane with an RC of 10 metre tonnes or more including:
 - approved codes of practice and relevant guidance material
 - relevant Australian technical standards
 - manufacturer guidelines (instructions, requirements or checklists), relevant industry standards and operating procedures (where applicable).

Links

Companion Volume Implementation Guide -

<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=df441c6e-213d-43e3-874c-0b3f7036d851>

TLILIC0003 Licence to operate a forklift truck

Modification History

Release 1. This is a release of this unit of competency in the TLI Transport and Logistics Training Package.

Application

This unit specifies the skills and knowledge required to operate a forklift truck safely in accordance with all relevant legislative requirements. Competence in this unit, does not in itself result in a HRWL licence to operate this plant.

Forklift truck means a powered industrial truck equipped with lifting media made up of a mast and an elevating load carriage to which is attached a pair of fork arms or other attachments that can be raised 900 mm or more above the ground, but does not include a pedestrian-operated truck or a pallet truck.

A person performing this work is required to hold a forklift truck High Risk Work Licence (HRWL).

This unit requires a person operating a forklift truck to:

- plan for the work/task
- prepare for the work/task
- perform work/task
- pack up

Licensing/Regulatory Information

Legislative and regulatory requirements are applicable to this unit of competency.

This unit is based on the licensing requirements of Part 4.5 of the Model Work Health and Safety (WHS) Regulations and meets Commonwealth, State and Territory HRWL requirements.

The National Assessment Instrument (NAI) is the mandated assessment for the HRWL to operate the relevant licencing class as detailed in this unit.

Pre-requisite Unit

Not applicable

Competency Field

LIC - Licencing Units

Unit Sector

Not applicable

Elements and Performance Criteria

ELEMENTS

Elements describe the essential outcomes.

PERFORMANCE CRITERIA

Performance criteria describe the performance needed to demonstrate achievement of the element.

1 Plan work/task

- 1.1 Task requirements are identified from work orders or equivalent and confirmed with relevant people and site inspection is conducted in accordance with workplace procedures
- 1.2 Work area operating surface is assessed to determine suitability for operational use of forklift truck in accordance with workplace procedures
- 1.3 Suitability of forklift truck and attachment working load limit (WLL) is determined for the load/s and work/task requirements in accordance with manufacturer requirements and workplace procedures
- 1.4 Working area is inspected and appropriate paths for operating the forklift truck and moving and placing load/s in work area are assessed and managed in accordance with workplace procedures
- 1.5 Hazard and risk control measures are identified and reported to relevant person/s in accordance with workplace procedures
- 1.6 Traffic management plan implementation is confirmed in accordance with workplace procedures
- 1.7 Appropriate communication procedures are identified with relevant people in accordance with workplace procedures
- 1.8 All work is confirmed to ensure coverage of work/task requirements for the relevant work area is in accordance with workplace procedures

2 Prepare for work/task	2.1 Consultation with workplace person/s is maintained to ensure workplan is clear and consistent with site requirements in accordance with safe work procedures 2.2 Weather and work environmental conditions are assessed to determine any impact on forklift truck operations in accordance with manufacturer requirements and safe work procedures 2.3 Risk control measures for hazards identified are checked for implementation in accordance with safe work procedures 2.4 Forklift truck is accessed in a safe manner in accordance with manufacturer requirements and workplace procedures 2.5 Forklift truck logbook is checked in accordance with manufacturer, regulatory requirements and safe work procedures 2.6 Pre-start checks are carried out and any damage and defects are reported, recorded and appropriate action is taken in accordance with safe work procedures and manufacturer requirements 2.7 Forklift truck is set up correctly with any relevant attachments as per work plan in accordance with relevant manufacturer requirements including data plate and safe work procedures 2.8 Operational checks are carried out and any damage and defects are reported, recorded and appropriate action is taken in accordance with manufacturer requirements and safe work procedures 2.9 Hazard and risk control measures are checked for implementation and communicated to people in the work area in accordance with safe work procedures
3 Perform work/task	3.1 Weight and positioning of load is assessed to ensure compliance with forklift truck data plate requirements and in accordance with safe work procedures

- 3.2 Forklift truck is operated safely in accordance with manufacturer requirements and safe work procedures
 - 3.3 Loads are monitored constantly when lifting, moving, lowering and placing to ensure stability of load and avoidance of hazards in accordance with safe work procedures
 - 3.4 Unplanned and unsafe situations are responded to in accordance with safe work procedures
 - 3.5 Loads are picked up, transported and placed using all forklift truck movements in accordance with safe work procedures
 - 3.6 Forklift truck is parked, switched off and isolated appropriately in accordance with manufacturer requirements and safe work procedures
- 4 **Pack Up**
 - 4.1 Forklift truck shutdown procedures are carried out in accordance with manufacturer requirements and safe work procedures
 - 4.2 Forklift truck is secured to prevent unauthorised access/use in accordance with safe work procedures

Foundation Skills

Foundation skills essential to performance are explicit in the performance criteria of this unit of competency

Range of Conditions

Range is restricted to essential operating conditions and any other variables essential to the work environment.

Non-essential conditions may be found in the Companion Volume Implementation Guide.

Unit Mapping Information

This unit replaces and is equivalent to TLILIC2001 Licence to operate a forklift truck

Links

Companion Volume Implementation Guide -

<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=df441c6e-213d-43e3-874c-0b3f7036d851>

Assessment Requirements for TLILIC0003 Licence to operate a forklift truck

Modification History

Release 1. This is the first release of this unit of competency in the TLI Transport and Logistics Training Package.

Performance Evidence

Evidence required to demonstrate competence in this unit must be relevant to and satisfy all the requirements of the elements and performance criteria on at least one occasion and include:

- applying safe operating procedures for a forklift truck including:
 - maintaining safe operating speed
 - travelling with load lowered to an appropriate height for the terrain, operating surface and visibility in relation to direction of travel
- applying relevant forklift truck manufacturer requirements and data plate information and approved modifications to attachments fitted are in accordance with manufacturer requirements
- carrying out pre-start checks, including visual inspection which must include:
 - battery charge as required by manufacturer requirements
 - checking and interpreting data plate/s are relevant to the attachment and the forklift truck
 - checking for signs of paint separation and stressed welds indicating potential structural weakness
 - document evidence of damage
 - engine / mechanical fluid level checks including fuel as required by manufacturer requirements
 - ensuring availability of correct forklift truck logbook and updating records as required
 - ensuring forklift truck tyres or other attachment/s are securely fitted
 - ensuring seat and mirrors are adjusted appropriately and seat belt is functional
 - fluid leaks
 - lights are working effectively
 - safety equipment checks
 - signage and labels to ensure they are visible and legible
 - wheels and tyres for damage/correct inflation if applicable
- conducting and applying risk and hazard assessment strategies including:
 - insufficient lighting
 - other specific hazards including dangerous goods
 - overhead hazards and fixed structures, roof beams and doorways
 - restricted and poorly ventilated areas

- surface suitability based on forklift truck and task requirements
- the risk of collision with people, moving plant and fixed structures
- weather conditions
- complying with Commonwealth, State and Territory Work Health and Safety (WHS)/Occupational Health and Safety (OHS)/Occupational Safety and Health (OSH) legislation, regulations safe work and workplace procedures
- conducting operational checks, which must ensure:
 - all controls are located, identified and tested for functionality
 - all hydraulic functions operated to maximum extension and ensuring attachment (if fitted) movements and control functions are smooth and comply with operating requirements
 - hazard warning systems (e.g. reversing beepers, lights and horns) are functional
 - recording and maintaining accurate information relating to forklift truck operations
 - safety devices as fitted
 - start-up is in accordance with manufacturer requirements
 - steering, transmission and brake functions comply with operating requirements
 - there are no unusual noises
- confirming and following traffic management plan procedures relevant to their role in the work area
- conducting relevant procedures for refuelling and isolating fuel/power source as per manufacturer requirements using appropriate PPE
- determining relevant lifting attachment to perform work/task
- determining lift requirements including:
 - positioning of unusually balanced/shaped loads
 - centre of gravity
 - dynamic nature of load
 - tyre/attachment positioning
 - weight
- ensuring risk control measures within the work area are effective as per workplace procedures
- identifying, isolating and tagging out defective equipment and reporting to authorised person/s
- interpreting and confirming relevant documentation, workplace instructions, safety information, emergency procedures for the work task and relevant area
- interpreting workplace procedures in relation to various environmental conditions
- maintaining communication with other workplace personnel through using worksite procedures including:
 - audible and visual warning devices
 - signage
 - two-way radio
 - verbal instructions
 - written instructions
- maintaining three points of contact whilst accessing and egressing forklift truck and ensuring

rungs / steps are free of hazards

- operating and monitoring safe forklift truck operations using minimum 250kg dynamic and non-dynamic loads that include:
 - aligning tynes/attachment to load
 - carrying out a lift to 75% of the maximum height
 - conducting trial lift to ensure forklift truck and load are stable, and load is safe to move
 - correctly using horns and mirrors in workplace
 - correctly positioning and using an observer to assist when operating with a load that may restrict vision or be placed out of vision of the operator
 - driving applicable to conditions and moving loads safely
 - driving a forklift truck safely with load in forward and reverse, while maintaining visibility through an obstacle course including:
 - an 'S' bend with a minimum 90 degrees left and right turn
 - ensuring load/s remains stable through pick up, transport and placement
 - forklift truck speed is appropriate to load and surroundings
 - lowering dynamic and non-dynamic loads to appropriate height for travel in forward and reverse
 - picking up, driving, manoeuvring and placing dynamic and non-dynamic loads safely at various heights within a compliant racking system
 - picking up, driving, manoeuvring and placing dynamic and non-dynamic loads safely into/onto an elevated, flat, stable area
 - tilting mast (or forks if applicable) to ensure balance of load
 - using gluts/dunnage appropriately and lowering load safely
 - using tilt and side shift (where fitted) safely to manoeuvre dynamic and non-dynamic loads into allocated space
- reporting to relevant person/s on site risk control measures that are not in place or are deficient
- setting up an exclusion zone
- securely parking forklift truck and isolating in appropriate position including:
 - minimising possible access by unauthorised person/s
 - tynes/attachment lowered to required position in accordance with manufacturer requirements
 - park brake applied
 - switching off, isolating fuel/power source and removing key according to workplace procedures
- shutting down a forklift truck in accordance with manufacturer requirements and workplace procedures

Knowledge Evidence

Evidence required to demonstrate competence in this unit must be relevant to and satisfy all of the requirements of the elements and performance criteria and include knowledge of:

- Australian and industry standards, codes of practice and guidelines to safely operate a forklift truck
- communication procedures including:
 - audible and visual warning devices
 - hand signals
 - questioning techniques
 - signage
 - traffic warning systems
 - two-way radio
 - written instructions
- forklift truck characteristics and capabilities, manufacturer requirements and instructions for any attachments
- impact of the following on the operation of the forklift truck including:
 - failure/loss of control including brakes and steering
 - failure of equipment during forklift truck operations
 - forklift truck instability causes including:
 - deterioration of ground condition
 - overloading
 - pick up and placement of load
 - irregular loads
 - operating on ramps and uneven surfaces and in restricted spaces
 - use of forklift truck data plate and attachment data plate and appropriate methodology to determine weight of a load is appropriate for forklift truck and any attachment if fitted including the estimation or determination from:
 - labels on the actual load
 - markings on the actual load
 - paperwork such as consignment notes, running sheets and weighbridge dockets
 - weighing a carton and calculating load
- manufacturer requirements, instructions and operator's manual
- problems, and appropriate response procedures to unplanned and/or unsafe environmental conditions including:
 - wind
 - lightning
 - water/ice impacted surface/ground
 - rain
 - extreme heat
 - Ultra violet (UV) exposure
- problems and equipment faults, and implementing appropriate response procedures to unplanned and/or unsafe situations including:
 - lock out and tag out procedures
- relevant procedures for refuelling and recharging forklift truck using appropriate PPE

including:

- gas bottle
- connecting battery to charger and disconnecting battery from charger and reconnecting to forklift truck
- refuelling
- procedures for recording, reporting and maintaining workplace records and information
- risk assessment process including hierarchy of control:
 - elimination
 - substitution
 - isolation
 - engineering controls
 - administrative controls
 - personal protective equipment (PPE)
- safe use and compliance of different types of attachments including:
 - bale clamps
 - carpet spike for carpet rolls
 - drum carrier
 - jib attachment
 - paper roll clamps
 - personnel work platforms
 - rotators
 - slippers/fork extensions on tynes
- suitability and lifting capability of the attachment to be used
- shut down procedures for a forklift truck in accordance with manufacturer requirements
- traffic management plan procedures and requirements
- typical routine problems encountered operating a forklift truck and associated equipment, and adjustments required for correction
- workplace procedures including work plan which may be verbal, documented/written, or electronically generated
- work area operating surface suitability including issues with:
 - backfilled ground
 - bitumen (damaged, cracked)
 - concrete (damaged, cracked)
 - hard compacted soil
 - potholes
 - railway tracks
 - rough uneven or difficult terrain including sloping surfaces, uneven surfaces, steel decks and grates
 - soft soils
 - trench covers
- Work Health and Safety (WHS)/Occupational Health and Safety (OHS)/Occupational Safety

and Health (OSH) requirements, safe work and workplace procedures

Assessment Conditions

As a minimum, assessors must satisfy applicable regulatory requirements, which include requirements in the Standards for Registered Training Organisations current at the time of assessment.

As a minimum, assessment must satisfy applicable regulatory requirements, which include requirements in the Standards for Registered Training Organisations current at the time of assessment.

Assessment processes and techniques must be appropriate to the language, literacy and numeracy requirements of the work being performed and the needs of the candidate.

Assessment must occur in workplace operational situations. Where this is not appropriate, assessment must occur in simulated workplace operational situations that reflect workplace conditions.

- Simulators must not be used in the assessment of this unit of competency.

Resources for assessment must include access to:

- a suitable forklift truck that complies with AS 2359 Powered industrial trucks and is in a safe/serviceable condition in accordance with manufacturer requirements
- associated equipment for forklift truck operations
- suitable dynamic and non-dynamic loads
- suitable compliant racking system
- relevant and appropriate materials, tools, equipment and personal protective equipment currently used in industry
- applicable documentation including:
 - approved codes of practice and relevant guidance material
 - relevant Australian technical standards
 - manufacturer guidelines (instructions, requirements or checklists), relevant industry standards and operating procedures (where applicable)

Links

Companion Volume Implementation Guide -

<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=df441c6e-213d-43e3-874c-0b3f7036d851>

TLILIC0008 Licence to operate a non-slewing mobile crane (greater than 3 tonnes capacity)

Modification History

Release 2. This is the second release of this unit of competency in the TLI Transport and Logistics Training Package:

- Minor statement changes in unit Application
- Minor statement changes in Assessment Conditions.

Release 1. This is the first release of this unit of competency in the TLI Transport and Logistics Training Package.

Application

This unit specifies the skills and knowledge required to operate a non-slewing mobile crane with a Maximum Rated Capacity (MRC) exceeding 3 tonnes safely, in accordance with all relevant legislative responsibilities. Competence in this unit, does not in itself result in a High Risk Work Licence (HRWL) to operate this plant.

A person undertaking this unit must hold:

- a current National HRWL to perform dogging or a current certification for a specific VET course for HRWL to perform dogging that has been issued by, or on behalf of a WHS Regulator

Non-slewing mobile crane means a mobile crane incorporating a boom or jib that cannot be slewed, and includes:

- an articulated mobile crane
- a locomotive crane
- but does not include vehicle tow trucks.

A person performing this work is required to hold a non-slewing mobile crane HRWL.

This unit requires a person operating non-slewing mobile crane with an MRC exceeding 3 tonnes to:

- plan the work/task
- prepare for the work/task
- perform work/task
- pack up

Licensing/Regulatory Information

Legislative and regulatory requirements are applicable to this unit of competency. This unit is based on the licensing requirements of Part 4.5 of the Model Work Health and Safety (WHS) Regulations and meets Commonwealth, State and Territory HRWL requirements.

The National Assessment Instrument (NAI) is the mandated assessment for the HRWL to operate

the relevant licencing class as detailed in this unit.

Pre-requisite Unit

Not applicable

Competency Field

LIC - Licencing Units

Unit Sector

Not applicable

Elements and Performance Criteria

ELEMENTS

PERFORMANCE CRITERIA

Elements describe the essential outcomes.

Performance criteria describe the performance needed to demonstrate achievement of the element.

1 Plan work/task

- 1.1 Task requirements are identified from work orders or equivalent and a lift plan is confirmed with associated personnel and a site inspection is conducted in accordance with workplace procedures
- 1.2 Work area operating surface is confirmed to determine the quality of ground suitability for operational use of non-slewing mobile crane in accordance with workplace procedures
- 1.3 Non-slewing mobile crane rated capacity (RC) and the lifting gear Working Load Limit (WLL) are established for the load/s and work/task requirements in accordance with manufacturer requirements and workplace procedures
- 1.4 Appropriate paths for operating the mobile crane and moving and placing load/s in work area are assessed and determined in accordance with workplace procedures
- 1.5 Relevant hazard identification and risk elimination/control measures are applied and advised to associated personnel in accordance with workplace

procedures

- 1.6** Traffic management plan implementation is confirmed and followed in accordance with workplace procedures
 - 1.7** Appropriate communication procedures are identified and tested with associated personnel in accordance with workplace procedures
 - 1.8** All tasks are confirmed to ensure requirements for the relevant work area in accordance with a lift plan and workplace procedures
- 2 Prepare for work/task**
 - 2.1** Consultation with workplace personnel is established and maintained to ensure lift plan is clear and consistent with site requirements in accordance with a lift plan and workplace procedures
 - 2.2** Risk control measures for hazards identified are checked for implementation in accordance with the lift plan and safe work procedures
 - 2.3** Non-slewing mobile crane is accessed safely in accordance with manufacturer requirements and safe work procedures
 - 2.4** Pre-start crane checks are carried out and any damage and defects are reported, recorded and appropriate action is taken in accordance with manufacturer requirements and safe work procedures
 - 2.5** Mobile crane is set up correctly with any lifting gear as per the lift plan in accordance with relevant manufacturer requirements including load chart/s and safe work procedures
 - 2.6** Fly jib (if fitted) is set up as required in accordance with specific manufacturer requirements and safe work procedures
 - 2.7** Operational checks are carried out and any damage and defects are reported, recorded and appropriate action is taken in accordance with manufacturer requirements and safe work procedures

- 2.8 Crane logbook is checked to confirm current compliance, is correct for the crane type, is completed and signed and required rectifications have been signed off in accordance with manufacturer requirements and safe work procedures
 - 2.9 Weather and work environment conditions are assessed to determine any impact on mobile crane operations in accordance with manufacturer requirements and safe work procedures
- 3 **Perform work/task**
 - 3.1 Lifts are determined within the RC of the non slewing mobile crane in accordance with the load chart/s and lift plan
 - 3.2 Boom/jib and hook block is safely positioned over the load following directions from associated personnel in accordance with the lift plan and safe work procedures
 - 3.3 Lifting gear where required is connected to the load and used safely in accordance with the lift plan, safe work procedures and manufacturer requirements
 - 3.4 Test lift is carried out in accordance with dogging and safe work procedures
 - 3.5 Loads are transferred using relevant crane movements and tag lines as required, in accordance with lift plan and safe work procedures
 - 3.6 Load and crane movement is monitored constantly and crane is operated safely in accordance with lift plan and safe work procedures
 - 3.7 All required communication signals are correctly interpreted and followed whilst crane is operated in accordance with the lift plan and safe work procedures
 - 3.8 Load is lowered and landed safely in accordance with lift plan and safe work procedures
 - 3.9 Lifting gear is disconnected from load and crane is positioned safely and efficiently for next task in accordance with lift plan and safe work procedures
- 4 **Pack Up**
 - 4.1 Crane boom/jib, lifting gear and associated equipment is stowed and secured as required in accordance with manufacturer requirements and safe work procedures

- 4.2 Relevant motion locks and brakes are applied as required in accordance with manufacturer requirements and safe work procedures
- 4.3 Crane is shut down and secured to prevent unauthorised access/use in accordance with safe work procedures
- 4.4 Post-operational crane checks are carried out in accordance with legislative responsibilities, safe work procedures and manufacturer requirements

Foundation Skills

Foundation skills essential to performance are explicit in the performance criteria of this unit of competency

Range of Conditions

Range is restricted to essential operating conditions and any other variables essential to the work environment.

Non -essential conditions may be found in the Companion Volume Implementation Guide.

Unit Mapping Information

This unit replaces and is equivalent to TLILIC3006 Licence to operate a non-slewing mobile crane (greater than 3 tonnes)

Links

Companion Volume Implementation Guide -

<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=df441c6e-213d-43e3-874c-0b3f7036d851>

Assessment Requirements for TLILIC0008 Licence to operate a non-slewing mobile crane (greater than 3 tonnes capacity)

Modification History

Release 2. This is the second release of this unit of competency in the TLI Transport and Logistics Training Package:

- Minor statement changes in unit Application
- Minor statement changes in Assessment Conditions.

Release 1. This is the first release of this unit of competency in the TLI Transport and Logistics Training Package.

Performance Evidence

Evidence required to demonstrate competence in this unit must be relevant to and satisfy all the requirements of the elements and performance criteria on at least one occasion and include:

- applying relevant mathematical calculations in conjunction with lift plan and load chart, radius requirements and relevant lifting gear to perform work/task to enable crane to be configured for load including:
 - boom
 - fly-jib (where fitted)
 - line pull
 - mobiling
 - type of hook
 - side slope derations
 - articulation derations
- applying relevant crane movements including:
 - boom/jib up and down (luffing)
 - positioning and using main and auxiliary hook and lifting gear to connect to load safely
 - raise and lower hoist
 - telescope in and out
 - travel and articulating (as required)
- communicating with other workplace personnel through using appropriate worksite procedures including:
 - 2-way radio
 - listening
 - making and interpreting hand signals
 - questioning to confirm understanding
 - signage

- verbal language
- visual aids
- whistles
- written instructions
- complying with Commonwealth, state and territory Work Health and Safety (WHS)/Occupational Health and Safety (OHS)/Occupational Safety and Health (OSH) legislation and safe work procedures
- completing the pre-start check including:
 - battery power level as required by manufacturer requirements
 - engine / mechanical fluid level checks as required by manufacturer requirements
 - presence of correct logbook
 - evidence of damage
 - fluid leaks
 - lights work effectively
 - locating, identifying and confirming all controls
 - mirrors and seat are adjusted appropriately
 - safety equipment checks
 - signage and labels to ensure they are visible and legible
 - checking for signs of paint separation and stressed welds indicating potential structural weakness
 - tyres and wheels for damage/wear and correct inflation (Water/Air)
 - updating records as required
 - visual damage or equipment faults
- conducting and applying risk and hazard strategies including:
 - confirming work area operating surface suitability based on crane and task requirements
 - articulation of crane
 - dynamic loads
 - ground conditions including surface and slopes
 - impact of tyre inflation/condition
 - load swing
 - overloading
 - pick and placement of load
 - asymmetric loads
 - overhead hazards
 - restricted site/s and poorly ventilated area/s
 - risk of collision with people, moving plant and fixed structures
 - adequate lighting
 - weather conditions
- completing operational checks ensuring:
 - all controls are located, identified and tested for functionality

- all hydraulic functions are operated
- lifting gear movements and control functions are smooth and comply with lift plan
- hazard warning systems, safety, audible and visual warning devices are checked to ensure they are functional including:
 - reversing beepers
 - lights
 - horns
 - crane computer alarm (where fitted)
 - anti-two block alarms (where fitted)
- start-up is in accordance with manufacturer requirements and workplace procedures
- there are no unusual noises
- steering, transmission and brake functions comply with operating requirements
- confirming and following traffic management plan procedures relevant to crane operator role in the work area
- determining any defects or faults with operation of crane and reporting to relevant person/s
- ensuring risk control measures within the work area are effective as per workplace procedures
- ensuring stability of load and avoidance of hazards by applying best mobile practice including:
 - allowing for boom deflection
 - boom/jib as low as possible
 - boom/jib in line with crane
 - carrying load near to ground surface
 - crane stability whilst manoeuvring load into position with drive/steering wheels and articulating as required
 - gently accelerating and braking to minimise load swing
 - lowering load safely and stably onto appropriate dunnage taking into consideration swing and restrictions of area
 - minimum boom/jib length
 - minimum speed
 - using handheld taglines/bridling
- following directions of dogger or rigger
- interpreting and confirming relevant documentation for the work task and relevant area
- inputting crane configuration into crane computer (where fitted) and checking operation to accurately reflect crane configuration
- interpreting and acting on communications signals including:
 - hoist down - hand and whistle and radio
 - hoist up - hand and whistle and radio
 - luff boom down - hand and whistle and radio
 - luff boom up - hand and whistle and radio
 - articulate left - hand and whistle and radio

- articulate right - hand and whistle and radio
- stop - hand and whistle and radio
- telescope in - hand and whistle and 2-way radio (where manufacturer requirements allow)
- telescope out - hand and whistle and 2-way radio (where manufacturer requirements allow)
- travel - hand and radio
- maintaining three points of contact whilst accessing crane and ensure rungs / steps are free of hazards
- monitoring load disconnection from hook is safe and ensuring no movement of controls
- observing relevant communication signals from relevant person
- operating an articulated non-slewing mobile crane with a rated capacity (RC) of 12 tonnes or greater to lift four different loads using the main hook through an obstacle course using all crane operational controls while the load is in full view of the crane operator. Loads must consist of:
 - a load of >50% of the Rated Capacity (RC) of the crane with a boom length of >75%, and
 - a round load with a minimum diameter of 300 mm and minimum length of 3 m that requires a dogger to sling, and
 - an asymmetrical load that requires a dogger to sling, and
 - travelling with a load of stillage containing at least ten scaffolding standards or containing a load of steel pipes of equivalent weight that requires a dogger to sling and a boom length of <75%
- positioning the non-slewing mobile crane for safe operation for:
 - application of the task
 - manoeuvring in the workplace
 - aligning of crane boom to the load
 - stability of the non-slewing mobile crane and the load whilst driving to load set down position
- recording and maintaining accurate information relating to crane operations
- reporting to relevant person/s on site risk control measures that are not in place or deficient
- setting up of:
 - fly jib (where fitted)
 - manual boom section (where fitted)
- setting up and validating an exclusion zone
- shutting down a non-slewing mobile crane in accordance with manufacturer requirements and workplace procedures
- stabilising a non-slewing mobile crane for operation by ensuring level and articulation (if required) is checked and within deration load chart requirements
- test-lifting load just clear of lifting plane to allow for checks to be safely made in consultation with associated personnel to ensure:
 - slinging is correct
 - all crane equipment is functioning properly
 - load centre of gravity is correct

- loads of unusual shape or weight distribution are correctly slung
- test-lifting load just clear of lifting plane to allow for checks of crane computer (where fitted) to ensure:
 - load measuring equipment can be used to verify calculated weight of load
 - near capacity loads do not overload crane

Knowledge Evidence

Evidence required to demonstrate competence in this unit must be relevant to and satisfy all of the requirements of the elements and performance criteria and include knowledge of:

- appropriate worksite communication procedures including:
 - listening
 - hand signals
 - questioning techniques
 - signage
 - two-way radios
 - written instructions
 - whistles
- crane configuration mathematical calculations to:
 - estimate loads
 - establish counterweight/s requirements (where fitted)
 - radius requirements
 - relevant lifting gear to perform work/task
- characteristics and impact of factors affecting non-slewing mobile crane stability whilst mobilising loads including:
 - side slope derations
 - articulation derations of crane
 - correct tyre pressure (inflation/condition)
 - driving safely on roadways
 - pick up and carry the load
- crane and lifting gear load chart/s and manufacturer requirements
- lift impacting factors including:
 - centre of gravity
 - dynamic nature of load
 - deflection of boom
 - length
 - radius of lift
 - weight
 - side slope derations
 - articulation derations of crane

- tyre inflation pressures
- hazards including:
 - pack up and crane stability, crane tipping and demolition sites
 - ground stability including ground condition, recently filled trenches and slopes
 - insufficient lighting
 - obstacles or obstruction
 - catching load swing appropriately
 - other specific hazards and dangerous materials
 - overhead hazards including:
 - electric lines
 - service pipes
 - fixed structures
 - Vegetation (Trees)
 - traffic including pedestrians, vehicles and other plant
 - operations on unusual, uneven or difficult terrains
- impact of factors affecting non-slewing mobile crane stability including:
 - overloading
 - pick up and placement of load
 - unbalanced loads
 - articulation of crane
 - correct tyre pressures (inflation/condition)
 - side slope derations
- manufacturer requirements and instructions on shutting down and packing up crane
- mobile non-slewing crane characteristics and capabilities to allow crane configuration to suit a range of loads
- relevant workplace instructions, safety information, emergency procedures
- relevant documentation requirements and procedures for recording, reporting and maintaining workplace records and information
- risk assessment management and mitigation strategies including hierarchy of control:
 - elimination
 - substitution
 - isolation
 - engineering controls
 - administrative controls
 - personal protective equipment (PPE)
- roles and responsibilities of duty holders as per legislative obligations of Work Health and Safety (WHS)/Occupational health and Safety (OHS)/Occupational Safety and Health (OSH) requirements and safe work/workplace procedures
- prestart and operational checks required for a non-slewing mobile crane
- starting procedure of crane as per manufacturer requirements
- set up of:

- jib
- fly jib (where fitted)
- manual boom section (where fitted)
- weather bureau forecasts and environmental conditions that could impact operation
- workplace standards, requirements, policies and procedures for conducting operations for the mobile non-slewing crane
- problems and applying appropriate response procedures to unplanned and/or unsafe situations and environmental conditions
- work area suitability based on relevant ground reports including:
 - backfilled ground
 - bitumen
 - concrete
 - hard compacted soil
 - pre-contaminated soils
 - rock
 - rough uneven ground
 - soft soils

Assessment Conditions

Assessors must hold credentials specified within the Standards for Registered Training Organisations current at the time of assessment.

Assessment must satisfy the Principles of Assessment and Rules of Evidence and all regulatory requirements included within the Standards for Registered Training Organisations current at the time of assessment.

Assessment processes and techniques must be appropriate to the language, literacy and numeracy requirements of the work being performed and the needs of the candidate.

Assessment must occur in workplace operational situations. Where this is not appropriate, assessment must occur in simulated workplace operational situations that reflect workplace conditions.

- Simulators must not be used in the assessment of this unit of competency.

Resources for assessment must include access to:

- non-slewing articulated mobile crane with an MRC 12 tonnes or greater in safe/serviceable working order in accordance with manufacturer specifications
- appropriate loads as outlined in the performance evidence requirements
- associated personnel to sling and direct loads including:
 - dogger or rigger
- communications equipment including:
 - two-way radios
 - whistles

- personal protective equipment (PPE)
- relevant documentation for operating a non-slewing mobile crane over 3 tonnes including:
 - approved codes of practice and relevant guidance material
 - relevant Australian technical standards
 - manufacturer guidelines (instructions, requirements or checklists), relevant industry standards and operating procedures (where applicable).

Links

Companion Volume Implementation Guide -

<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=df441c6e-213d-43e3-874c-0b3f7036d851>

TLILIC0010 Licence to operate a slewing mobile crane (up to 20 tonnes)

Modification History

Release 2. This is the second release of this unit of competency in the TLI Transport and Logistics Training Package:

- Minor statement changes in unit Application
- Minor statement changes in Assessment Conditions.

Release 1. This is the first release of this unit of competency in the TLI Transport and Logistics Training Package.

Application

This unit specifies the skills and knowledge required to safely operate a slewing mobile crane with a maximum rated capacity (MRC) up to 20 tonnes, in accordance with all relevant legislative responsibilities. Competence in this unit, does not in itself result in a High Risk Work Licence (HRWL) to operate this plant.

A person undertaking this unit must hold:

- a current National HRWL to perform dogging or a current certification for a specific VET course for HRWL to perform dogging that has been issued by, or on behalf of a WHS Regulator.

Slewing mobile crane means a mobile crane incorporating a boom or jib that can be slewed, but does not include:

- a front-end loader or
- a backhoe or
- an excavator or
- other earth moving equipment, when configured for crane operation.

A person performing this work is required to hold a slewing mobile crane with an MRC up to 20 tonnes high risk work (HRW) licence.

This unit requires a person operating a slewing mobile crane with an MRC up to 20 tonnes to:

- plan for the work/task
- prepare for the work/task
- perform work/task
- pack up

Licensing/Regulatory Information

Legislative and regulatory requirements are applicable to this unit of competency.

This unit is based on the licensing requirements of Part 4.5 of the Model Work Health and Safety (WHS) Regulations and meets Commonwealth, State and Territory HRWL requirements.

The National Assessment Instrument (NAI) is the mandated assessment for the HRWL to operate the relevant licencing class as detailed in this unit.

Pre-requisite Unit

Not applicable

Competency Field

LIC - Licencing Units

Unit Sector

Not applicable

Elements and Performance Criteria

ELEMENTS

Elements describe the essential outcomes.

1 Plan work/task

PERFORMANCE CRITERIA

Performance criteria describe the performance needed to demonstrate achievement of the element.

- 1.1** Task requirements are identified from work orders or equivalent and a lift plan is confirmed with associated personnel and a site inspection is conducted in accordance with workplace procedures
- 1.2** Work area operating surface is confirmed to determine ground suitability for operational use of mobile crane in accordance with workplace procedures
- 1.3** Mobile crane rated capacity (RC) and the lifting gear Working Load Limit (WLL) are established for the load/s and work/task requirements in accordance with manufacturer requirements and workplace procedures
- 1.4** Appropriate paths for operating the mobile crane and moving and placing load/s in work area are assessed and determined in accordance with workplace procedures
- 1.5** Relevant hazard identification and risk elimination/control measures are applied and advised to associated personnel in accordance with workplace procedures

- 1.6 Traffic management plan implementation is confirmed in accordance with workplace procedures
 - 1.7 Appropriate communication procedures are identified with associated personnel in accordance with workplace procedures
 - 1.8 All crane and lifting operations are confirmed to ensure relevant work area requirements are correct in accordance with a lift plan and workplace procedures
- 2 **Prepare for work/task**
 - 2.1 Consultation with workplace personnel is established and maintained to ensure lift plan is clear and consistent with site requirements in accordance with a lift plan and workplace procedures
 - 2.2 Risk control measures for hazards identified are checked for implementation in accordance with the lift plan and safe work procedures
 - 2.3 Mobile crane is accessed safely in accordance with manufacturer requirements and safe work procedures
 - 2.4 Pre-start mobile crane checks are carried out and any damage and defects are reported, recorded and appropriate action is taken in accordance with manufacturer requirements and safe work procedures
 - 2.5 Mobile crane is set up correctly with any lifting gear as and stabilised as per the lift plan in accordance with relevant manufacturer requirements including load chart/s and safe work procedures
 - 2.6 Fly jib is set up as required in accordance with specific manufacturer requirements and safe work procedures
 - 2.7 Operational checks are carried out and any damage and defects are reported, recorded and appropriate action is taken in accordance with manufacturer requirements and safe work procedures
 - 2.8 Crane logbook is checked to confirm current compliance, is correct for the crane type, is completed and signed and required rectifications have been signed off in accordance with manufacturer requirements and safe work procedures

- 2.9** Weather and work environment conditions are assessed to determine any impact on mobile crane operations in accordance with manufacturer requirements and safe work procedures
- 3 Perform work/task**
- 3.1** Lifts are determined within the RC of the mobile crane in accordance with the load chart/s and lift plan
- 3.2** Boom/jib and hook block is safely positioned over the load following directions from associated personnel in accordance with the lift plan and safe work procedures
- 3.3** Main hook including any lifting gear, where required are connected to the load and used safely in accordance with the lift plan, safe work procedures and manufacturer requirements
- 3.4** Test lift is carried out in accordance with dogging and safe work procedures
- 3.5** Loads are transferred using relevant crane movements and tag lines as required, in accordance with lift plan and safe work procedures
- 3.6** Load and crane movement is monitored constantly and crane is operated safely in accordance with lift plan and safe work procedures
- 3.7** All required communication signals are correctly interpreted and followed whilst crane is operated in accordance with the lift plan and safe work procedures
- 3.8** Load is lowered and landed safely in accordance with lift plan and safe work procedures
- 3.9** Lifting gear is positioned for safe disconnection from the load and crane is positioned for next task in accordance with lift plan and safe work procedures
- 4 Pack up**
- 4.1** Crane boom/jib, lifting gear and associated equipment is stowed and secured as required in accordance with manufacturer requirements and safe work procedures
- 4.2** Crane fly jib is removed to storage position and secured as required in accordance with manufacturer requirements and safe work procedures
- 4.3** Relevant motion locks and brakes are applied as required in accordance with manufacturer requirements

and safe work procedures

- 4.4** Outriggers, plates and/or packing are stowed and secured in accordance with manufacturer requirements and safe work procedures
- 4.5** Crane is shut down and secured to prevent unauthorised access/use in accordance with safe work procedures
- 4.6** Shut down crane checks are carried out in accordance with safe work procedures and manufacturer requirements

Foundation Skills

Foundation skills essential to performance are explicit in the performance criteria of this unit of competency

Range of Conditions

Range is restricted to essential operating conditions and any other variables essential to the work environment.

Non -essential conditions may be found in the Companion Volume Implementation Guide.

Unit Mapping Information

This unit replaces and is equivalent to TLILIC3008 Licence to operate a slewing mobile crane (up to 20 tonnes)

Links

Companion Volume Implementation Guide -
<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=df441c6e-213d-43e3-874c-0b3f7036d851>

Assessment Requirements for TLILIC0010 Licence to operate a slewing mobile crane (up to 20 tonnes)

Modification History

Release 2. This is the second release of this unit of competency in the TLI Transport and Logistics Training Package:

- Minor statement changes in unit Application
- Minor statement changes in Assessment Conditions.

Release 1. This is the first release of this unit of competency in the TLI Transport and Logistics Training Package.

Performance Evidence

Evidence required to demonstrate competence in this unit must be relevant to and satisfy all the requirements of the elements and performance criteria on at least one occasion and include:

- applying relevant mathematical calculations in conjunction with lift plan and load chart to determine radius requirements and relevant lifting gear to perform work/task to enable crane to be configured for load including:
 - boom
 - counterweight/s
 - fly-jib
 - line pull
 - outrigger positioning
 - type of hook
- applying relevant crane movements including:
 - boom/jib up and down (luffing)
 - catching load swing appropriately
 - positioning and using main and auxiliary hook and lifting gear to connect to load safely
 - raise and lower hoist
 - slew boom/jib
 - telescope in and out (where manufacturer requirements allow)
 - travel
- carrying out operational checks ensuring:
 - all controls are located, identified and tested for functionality
 - all hydraulic functions are operated
 - lifting gear movements and control functions are smooth and comply with lift plan
 - hazard warning systems, safety, audible and visual warning devices are checked for to ensure they are functional including:

- reversing beepers
- lights
- horns
- crane computer alarm (where fitted)
- anti-two block alarms (where fitted)
- start-up is in accordance with manufacturer requirements and safe work procedures
- there are no unusual noises
- steering, transmission and brake functions comply with operating requirements
- conducting and applying risk and hazard assessment strategies including:
 - confirming work area operating surface suitability based on crane and task requirements
 - dynamic loads
 - load swing
 - overloading
 - pick and placement of load
 - tyre pressures or track condition
 - asymmetric loads
 - overhead hazards
 - restricted and poorly ventilated areas
 - risk of collision with people, moving plant and fixed structures
 - adequate lighting
 - weather conditions
- complying with Commonwealth, state and territory Work Health and Safety (WHS)/Occupational Health and Safety (OHS)/Occupational Safety and Health (OSH) legislation and safe work procedures
- communicating with other associated personnel through using appropriate workplace procedures which including:
 - 2-way radio
 - active listening
 - demonstrating and interpreting hand signals
 - questioning to confirm understanding
 - signage/visual aids
 - whistles
 - written instructions
- completing the pre-start check including:
 - boom wiring harness connection
 - engine / mechanical fluid level checks as required by manufacturer requirements
 - ensure rungs / steps are free of hazards
 - fire extinguisher
 - fluid leaks
 - lights work effectively

- locating, identifying and confirming all controls
- mirrors and seat are adjusted appropriately for the operator
- presence of correct logbook
- safety equipment checks
- signage and labels to ensure they are visible and legible
- checking for signs of paint separation and stressed welds indicating potential structural weakness
- tyres and wheels for damage/wear and correct inflation
- updating records as required
- visual damage or equipment faults
- confirming and following traffic management plan procedures relevant to their role in the work area
- determining any defects or faults with operation of crane, recording in relevant documentation and reporting to relevant person/s
- ensuring risk control measures within the work area are effective as per safe work procedures
- following directions of dogger or rigger
- inputting crane configuration into crane computer (where fitted) and checking operation to accurately reflect crane configuration
- interpreting and acting on communications signals including:
 - hoist down - hand and whistle and 2-way radio
 - hoist up - hand and whistle and 2-way radio
 - luff boom down - hand and whistle and 2-way radio
 - luff boom up - hand and whistle and 2-way radio
 - slew left - hand and whistle and 2-way radio
 - slew right - hand and whistle and 2-way radio
 - stop - hand and whistle and 2-way radio
 - telescope in - hand and whistle and 2-way radio (where manufacturer requirements allow)
- telescope out - hand and whistle and 2-way radio (where manufacturer requirements allow)
- interpreting and confirming relevant documentation for the work task and relevant area
- maintaining three points of contact whilst accessing crane
- monitoring load disconnection from hook is safe and ensuring no movement of crane operational controls
- operating a slewing mobile crane configured to a rated capacity (RC) of between 7tonne and up to 20tonne to lift and move four different loads using the main hook through an obstacle course including a 180-degree minimum slew using all crane operational controls while the load is in full view of the crane operator. Loads must consist of:
 - a load of >50% of the Rated Capacity (RC) of the crane with a boom length of >75%, and
 - stillage containing at least ten scaffolding standards or containing a load of steel pipes of equivalent weight that requires a dogger to sling, and
 - an asymmetric load that requires a dogger to sling, and
 - a round load with a minimum diameter of 300 mm and minimum length of 3 m that requires a dogger to sling

- positioning the mobile crane for safe operation for:
 - application of the task/s
 - manoeuvring in the workplace
 - the stability of the mobile crane and the load
- recording and maintaining accurate information relating to crane operations
- reporting to relevant person/s on workplace control measures that are not in place or deficient
- setting up and validating an exclusion zone as per the lift plan
- shutting down a slewing mobile crane in accordance with manufacturer requirements and safe work procedures
- stabilising a slewing mobile crane for operation by:
 - correctly positioning plates or packing
 - deploying outriggers
 - establishing correct size plates or packing in accordance with the lift plan
 - levels are checked
- test-lifting load just clear of lifting plane to allow for checks to be safely made in consultation with associated personnel to ensure:
 - slinging is correct
 - all crane equipment is functioning properly
 - load centre of gravity is correct
 - loads of unusual shape or weight distribution are correctly slung
- test-lifting load just clear of lifting plane to allow for checks of crane computer (where fitted) to ensure:
 - load measuring equipment can be used to verify calculated weight of load
 - near capacity loads do not overload crane

Knowledge Evidence

Evidence required to demonstrate competence in this unit must be relevant to and satisfy all of the requirements of the elements and performance criteria and include knowledge of:

- appropriate workplace communication procedures including:
 - listening
 - hand signals
 - questioning techniques
 - signage
 - two-way radios
 - written instructions
 - whistles
- crane configuration mathematical calculations to:
 - estimate loads
 - radius requirements

- relevant lifting gear to perform work/task
- characteristics and impact of factors affecting non-slewing articulated mobile crane stability whilst mobilising loads compared to slewing crane including:
 - articulation of crane
 - correct tyre pressure (inflation/condition)
 - driving safely on public and private roadways
 - unique handling characteristics of a mobile articulated crane and the emergency procedures in the event of loss of control as per manufacturer recommendations
 - pick up and carry the load
 - side slope derations
- characteristics and impact of factors affecting vehicle loading crane stability whilst mobilising loads compared to slewing crane including:
 - correct tyre pressure (inflation/condition)
 - emergency procedures in the event of incident
 - position of operator
 - use of stabilizers
- characteristics and impact of factors affecting reach stacker stability whilst mobilising loads compared to slewing crane including:
 - correct tyre pressure (inflation/condition)
 - driving safely on road ways
 - emergency procedures in the event of incident
 - impact of boom height and steering on stability
 - use of stabilizers
- crane, lifting gear load chart/s and manufacturer requirements
- lift impacting factors including:
 - centre of gravity
 - dynamic nature of load
 - flex/deflexion of boom
 - length of load
 - radius of boom during lift
 - weight
- set up of:
 - jib
 - fly jib
- hazards including:
 - erection and pack up
 - crane stability
 - ground stability and condition including recently filled trenches and slopes
 - insufficient lighting
 - obstacles or obstruction

- other specific hazards and dangerous materials
- overhead hazards including:
 - electric lines
 - service pipes
 - structures
 - vegetation (trees)
- traffic including pedestrians, vehicles and other plant
- operations on unusual, uneven or difficult terrains
- manufacturer requirements on outrigger procedures
- manufacturer requirements and instructions on shutting down and packing up crane
- mobile slewing crane characteristics and capabilities to allow crane configuration to suit a range of loads
- relevant workplace instructions, safety information, emergency procedures
- relevant documentation requirements and procedures for recording, reporting and maintaining workplace records and information
- risk assessment management and mitigation strategies including hierarchy of control:
 - elimination
 - substitution
 - isolation
 - engineering controls
 - administrative controls
 - personal protective equipment (PPE)
- roles and responsibilities of duty holders as per legislative obligations of Work Health and Safety (WHS)/Occupational Health and Safety (OHS)/Occupational Safety and Health (OSH) requirements, safe work and workplace procedures
- prestart and operational checks required for a slewing mobile crane
- weather bureau forecasts and environmental conditions that could impact operation including:
 - lightning
 - wind
 - water impacted ground
 - Ultra Violet (UV) exposure
- problems and appropriate response procedures to unplanned and/or unsafe situations and environmental conditions
- stability of load and avoidance of hazards using best crane practice including:
 - allowing for boom deflection
 - boom/jib as low as possible
 - carrying load near to ground surface
 - crane stability
 - gently accelerating and braking on slew/boom to minimise load swing
 - lowering load safely onto appropriate dunnage taking into consideration swing and

- restrictions of area
- minimum boom/jib length
- minimum speed
- using handheld taglines as required
- identification of incorrect sling of load
- starting procedure of crane as per manufacturer requirements
- workplace standards, requirements, policies and procedures for conducting safe work operations for the mobile slewing crane
- work area suitability based on relevant ground reports including:
 - backfilled ground
 - bitumen
 - concrete
 - hard compacted soil
 - pre-contaminated soils
 - rock
 - rough uneven ground
 - soft soils

Assessment Conditions

Assessors must hold credentials specified within the Standards for Registered Training Organisations current at the time of assessment.

Assessment must satisfy the Principles of Assessment and Rules of Evidence and all regulatory requirements included within the Standards for Registered Training Organisations current at the time of assessment.

Assessment processes and techniques must be appropriate to the language, literacy and numeracy requirements of the work being performed and the needs of the candidate.

Assessment must occur in workplace operational situations. Where this is not appropriate, assessment must occur in simulated workplace operational situations that reflect workplace conditions.

- Simulators must not be used in the assessment of this unit of competency.

Resources for assessment that must include access to:

- slewing mobile crane with a Maximum Rated Capacity (MRC) of between 7 tonnes to 20 tonnes in safe/serviceable working order in accordance with manufacturer specifications
- appropriate loads as outlined in the performance evidence requirements
- appropriate personnel to sling and direct loads including:
 - dogger or rigger
- communications equipment including:
 - two-way radios
 - whistles

- relevant personal protective equipment (PPE)
- relevant documentation for operating a slewing mobile crane with a MRC up to 20 tonnes including:
 - approved codes of practice and relevant guidance material
 - relevant Australian technical standards
 - manufacturer guidelines (instructions, requirements or checklists), relevant industry standards and operating procedures (where applicable).

Links

Companion Volume Implementation Guide -

<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=df441c6e-213d-43e3-874c-0b3f7036d851>

TLILIC0013 Licence to operate a slewing mobile crane (up to 60 tonnes)

Modification History

Release 2. This is the second release of this unit of competency in the TLI Transport and Logistics Training Package:

- Minor statement changes in unit Application
- Minor statement changes in Assessment Conditions.

Release 1. This is a new release of this unit of competency in the TLI Transport and Logistics Training Package.

Application

This unit specifies the skills and knowledge required to safely operate a slewing mobile crane with a Maximum Rated Capacity (MRC) up to 60 tonnes, in accordance with all relevant legislative responsibilities. Competence in this unit, does not in itself result in a High Risk Work Licence (HRWL) to operate this plant.

A person undertaking this unit must hold:

- a current National HRWL to perform dogging or a current certification for a specific VET course for HRWL to perform dogging that has been issued by, or on behalf of a WHS Regulator.

Slewing mobile crane means a mobile crane incorporating a boom or jib that can be slewed, but does not include:

- a front-end loader or
- a backhoe or
- an excavator or
- other earth moving equipment, when configured for crane operation.

A person performing this work is required to hold a slewing mobile crane with an MRC up to 60 tonnes HRWL.

This unit requires a person operating a slewing mobile crane with an MRC up to 60 tonnes to:

- plan for the work/task
- prepare for the work/task
- perform work/task
- pack up

Licensing/Regulatory Information

Legislative and regulatory requirements are applicable to this unit of competency.

This unit is based on the licensing requirements of Part 4.5 of the Model Work Health and Safety (WHS) Regulations and meets Commonwealth, State and Territory HRWL requirements.

The National Assessment Instrument (NAI) is the mandated assessment for the HRWL to operate the relevant licencing class as detailed in this unit.

Pre-requisite Unit

Not applicable

Competency Field

LIC - Licencing Units

Unit Sector

Not applicable

Elements and Performance Criteria

ELEMENTS

Elements describe the essential outcomes.

1 Plan work/task

PERFORMANCE CRITERIA

Performance criteria describe the performance needed to demonstrate achievement of the element.

- 1.1** Task requirements are identified from work orders or equivalent and a lift plan is confirmed with associated personnel and a site inspection is conducted in accordance with workplace procedures
- 1.2** Work area operating surface is confirmed to determine ground suitability for operational use of mobile crane in accordance with lift plan, safe work and workplace/s procedures
- 1.3** Mobile crane rated capacity (RC) and the lifting gear Working Load Limit (WLL) are established and suitable for the load/s and work/task requirements in accordance with manufacturer requirements and workplace procedures
- 1.4** Appropriate paths for operating the mobile crane and moving and placing load/s in work area are assessed and determined in accordance with workplace procedures
- 1.5** Relevant hazard identification and risk elimination/control measures are applied and advised to associated personnel in accordance with workplace

procedures

- 1.6** Traffic management plan implementation is confirmed in accordance with workplace procedures
 - 1.7** Appropriate communication procedures are identified with associated personnel in accordance with workplace procedures
 - 1.8** All crane and lifting operations are confirmed to ensure relevant work area requirements are correct in accordance with a lift plan and workplace procedures
- 2 Prepare for work/task**
- 2.1** Consultation with workplace personnel is established and maintained to ensure all crane and lifting operations are clear and consistent with site requirements in accordance with a lift plan and workplace procedures
 - 2.2** Risk control measures for hazards identified are checked for implementation in accordance with the lift plan and safe work procedures
 - 2.3** Mobile crane is accessed safely in accordance with manufacturer requirements and safe work procedures
 - 2.4** Pre-start mobile crane checks are carried out and any damage and defects are reported, recorded and appropriate action is taken in accordance with manufacturer requirements and safe work procedures
 - 2.5** Mobile crane is set up correctly with any lifting gear and stabilised as per the lift plan in accordance with relevant manufacturer requirements including load chart/s and safe work procedures
 - 2.6** Counterweight/s are set up as required in accordance with the lift plan, relevant manufacturer requirements and safe work procedures
 - 2.7** Fly jib and/or luffing fly are set up as required in accordance with specific manufacturer requirements and safe work procedures
 - 2.8** Operational checks are carried out and any damage and defects are reported, recorded and appropriate action is taken in accordance with manufacturer requirements and safe work procedures

- 2.9 Crane logbook is checked to confirm current compliance, is correct for the crane type, is completed and signed and required rectifications have been signed off in accordance with manufacturer requirements and safe work procedures
 - 2.10 Weather and work environment conditions are assessed to determine any impact on mobile crane operations in accordance with manufacturer requirements and safe work procedures
- 3 Perform work/task**
 - 3.1 Lifts are determined to be within the RC of the mobile crane in accordance with the load chart/s and lift plan
 - 3.2 Boom/jib and hook block is safely positioned over the load following directions from associated personnel in accordance with the lift plan and safe work procedures
 - 3.3 Main and/or auxiliary hook including any lifting gear, where required are connected to the load and used safely in accordance with the lift plan, safe work procedures and manufacturer requirements
 - 3.4 Test lift is carried out in accordance with dogging and safe work procedures
 - 3.5 Loads are transferred using relevant crane movements and tag lines as required, in accordance with lift plan and safe work procedures
 - 3.6 Load and crane movement is monitored constantly and crane is operated safely in accordance with lift plan and safe work procedures
 - 3.7 All required communication signals are correctly interpreted and followed whilst crane is operated in accordance with the lift plan and safe work procedures
 - 3.8 Load is lowered and landed safely in accordance with lift plan and safe work procedures
 - 3.9 Lifting gear is positioned for safe disconnection from the load and crane is positioned for next task in accordance with lift plan and safe work procedures
- 4 Pack up**
 - 4.1 Crane boom/jib, lifting gear and associated equipment is stowed and secured as required in accordance with manufacturer requirements and safe work procedures

- 4.2 Crane fly jib and/or luffing fly and counterweight/s is removed to storage position and secured as required in accordance with manufacturer requirements and safe work procedures
- 4.3 Relevant motion locks and brakes are applied as required in accordance with manufacturer requirements and safe work procedures
- 4.4 Outriggers, plates and/or packing are stowed and secured in accordance with manufacturer requirements and safe work procedures
- 4.5 Crane is shut down and secured to prevent unauthorised access/use in accordance with safe work procedures
- 4.6 Shut down crane checks are carried out in accordance with safe work procedures and manufacturer requirements

Foundation Skills

Foundation skills essential to performance are explicit in the performance criteria of this unit of competency

Range of Conditions

Range is restricted to essential operating conditions and any other variables essential to the work environment.

Non -essential conditions may be found in the Companion Volume Implementation Guide.

Unit Mapping Information

This unit replaces and is equivalent to TLILIC4009 Licence to operate a slewing mobile crane (up to 60 tonnes)

Links

Companion Volume Implementation Guide -

<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=df441c6e-213d-43e3-874c-0b3f7036d851>

Assessment Requirements for TLILIC0013 Licence to operate a slewing mobile crane (up to 60 tonnes)

Modification History

Release 2. This is the second release of this unit of competency in the TLI Transport and Logistics Training Package:

- Minor statement changes in unit Application
- Minor statement changes in Assessment Conditions.

Release 1. This is a new release of this unit of competency in the TLI Transport and Logistics Training Package.

Performance Evidence

Evidence required to demonstrate competence in this unit must be relevant to and satisfy all the requirements of the elements and performance criteria on at least one occasion and must include:

- applying relevant mathematical calculations in conjunction with lift plan and load chart to determine radius requirements and relevant lifting gear to perform work/task to enable crane to be configured for load including:
 - boom
 - counterweight/s
 - fly-jib
 - line pull
 - outrigger positioning
 - type of hook
- applying relevant crane movements in crane operations including:
 - boom/jib up and down (luffing)
 - catching load swing appropriately
 - positioning and using main and auxiliary hook and lifting gear to connect to load safely
 - raise and lower hoist
 - slew boom/jib
 - telescoping in and out (where manufacturer requirements allow)
- conducting and applying hazard and risk assessment strategies including:
 - adequate lighting
 - asymmetric loads
 - confirming work area operating surface suitability based on crane and task requirements
 - dynamic loads
 - lifting and placing load
 - load swing

- overhead hazards
- overloading
- restricted and poorly ventilated areas
- risk of collision with people, moving plant and fixed structures
- tyre pressures or track condition
- weather conditions
- complying with Commonwealth, state and territory Work Health and Safety (WHS)/Occupational Health and Safety (OHS)/Occupational Safety and Health (OSH) legislation and safe work procedures
- communicating with other associated personnel through using appropriate workplace procedures which including:
 - 2-way radio
 - demonstrating and interpreting hand signals
 - questioning to confirm understanding
 - signage/visual aids
 - whistles
 - written instructions
- conducting the pre-start checks including:
 - boom wiring harness connection (where fitted)
 - checking for signs of paint separation and stressed welds indicating potential structural weakness
 - engine / mechanical fluid level checks as required by manufacturer requirements
 - ensure rungs / steps are free of hazards
 - fire extinguisher
 - fluid leaks
 - lights work effectively
 - locating, identifying and confirming all controls
 - mirrors and seat are adjusted appropriately for the operator
 - presence of correct logbook
 - safety equipment checks
 - signage and labels to ensure they are visible and legible
 - tyres and wheels for damage/wear and correct inflation
 - updating records as required
 - visual damage or equipment faults
- conducting operational checks ensuring:
 - all controls are located, identified and tested for functionality
 - all hydraulic functions are operated
 - hazard warning systems, safety, audible and visual warning devices are checked for to ensure they are functional including:
 - reversing beepers

- lights
- horns
- crane computer alarm (where fitted)
- anti-two block alarms (where fitted)
- confirming and following traffic management plan procedures relevant to their role in the work area
- lifting gear movements and control functions are smooth and comply with lift plan
- start-up is in accordance with manufacturer requirements and safe work procedures
- steering, transmission and brake functions comply with operating requirements
- there are no unusual noises
- determining any defects or faults with operation of crane, recording in relevant documentation and reporting to relevant person/s
- ensuring risk control measures within the work area are effective as per safe work procedures
- following directions of dogger or rigger
- inputting crane configuration into crane computer (where fitted) and checking operation to accurately reflect crane configuration
- interpreting and confirming relevant documentation for the work task and relevant area
- interpreting and acting on communications signals including:
 - hoist down - hand and whistle and 2-way radio
 - hoist up - hand and whistle and 2-way radio
 - luff boom down - hand and whistle and 2-way radio
 - luff boom up - hand and whistle and 2-way radio
 - slew left - hand and whistle and 2-way radio
 - slew right - hand and whistle and 2-way radio
 - stop - hand and whistle and 2-way radio
 - telescope in - hand and whistle and 2-way radio (where manufacturer requirements allow)
 - telescope out - hand and whistle and 2-way radio (where manufacturer requirements allow)
- monitoring load disconnection from hook is safe and ensuring no movement of crane operational controls
- maintaining three points of contact whilst accessing crane
- operating a slewing mobile crane configured with at least four parts of line greater than 20tonne and up to 60tonne to lift and move four different loads using the main hook through an obstacle course including a 180-degree minimum slew using all crane operational controls while the load is in full view of the crane operator. Loads must consist of:
 - a load of >50% of the Rated Capacity (RC) of the crane with a boom length of >75%, and
 - stillage containing at least ten scaffolding standards or containing a load of steel pipes of equivalent weight that requires a dogger to sling, and
 - an asymmetric load that requires a dogger to sling, and
 - a round load with a minimum diameter of 300 mm and minimum length of 3 m that requires a dogger to sling
- positioning the mobile crane as per the lift plan for safe operation for:

- application of the task/s
- manoeuvring in the workplace
- the stability of the mobile crane and the load
- recording and maintaining accurate information relating to crane operations
- reporting to relevant person/s on workplace control measures that are not in place or deficient
- setting up and validating an exclusion zone as per the lift plan
- shutting down a slewing mobile crane in accordance with manufacturer requirements and safe work procedures
- stabilising a slewing mobile crane for operation by:
 - correctly positioning plates or packing
 - deploying outriggers
 - establishing correct size plates or packing in accordance with the lift plan
 - levels are checked
- test-lifting load just clear of lifting plane to allow for checks to be safely made in consultation with associated personnel to ensure:
 - slinging is correct
 - all crane equipment is functioning properly
 - load centre of gravity is correct
 - loads of unusual shape or weight distribution are correctly slung
- test-lifting load just clear of lifting plane to allow for checks of crane computer (where fitted) to ensure:
 - load measuring equipment can be used to verify calculated weight of load
 - near capacity loads do not overload crane

Knowledge Evidence

Evidence required to demonstrate competence in this unit must be relevant to and satisfy all of the requirements of the elements and performance criteria and include knowledge of:

- appropriate workplace communication procedures including:
 - hand signals
 - questioning techniques
 - signage
 - two-way radios
 - written instructions
 - whistles
- characteristics and impact of factors affecting non-slewing articulated mobile crane stability whilst mobilising compared to slewing crane including:
 - articulation of crane
 - correct tyre pressure (inflation/condition)
 - driving safely on public and private roadways
 - unique handling characteristics of a mobile articulated crane and the emergency

- procedures in the event of loss of control as per manufacturer recommendations
- pick up and carry the load
- side slope derations
- characteristics and impact of factors affecting vehicle loading crane stability whilst mobiling compared to slewing crane including:
 - correct tyre pressure (inflation/condition)
 - emergency procedures in the event of incident
 - position of operator
 - use of stabilizers
- characteristics and impact of factors affecting reach stacker stability whilst mobiling compared to slewing crane including:
 - correct tyre pressure (inflation/condition)
 - driving safely on road ways
 - emergency procedures in the event of incident
 - impact of boom height and steering on stability
 - use of stabilizers
- crane configuration mathematical calculations to:
 - estimate loads
 - establish counterweight/s requirements
 - radius requirements
 - relevant lifting gear to perform work/task
- crane, lifting gear load chart/s and manufacturer requirements
- factors impacting lift including:
 - centre of gravity
 - dynamic nature of load
 - flex/deflection of boom
 - length of load
 - radius of boom during lift
 - weight
- hazards including:
 - erection and pack up
 - crane stability
 - ground stability and condition including recently filled trenches and slopes
 - insufficient lighting
 - obstacles or obstruction
 - other specific hazards and dangerous materials
 - overhead hazards including:
 - electric lines
 - service pipes
 - structures

- vegetation (trees)
- traffic including pedestrians, vehicles and other plant
- operations on unusual, uneven or difficult terrains
- manufacturer requirements on outrigger procedures
- manufacturer requirements and instructions on shutting down and packing up crane
- mobile slewing crane characteristics and capabilities to allow crane configuration to suit a range of loads
- prestart and operational checks required for a slewing mobile crane
- problems and appropriate response procedures to unplanned and/or unsafe situations and environmental conditions
- relevant workplace instructions, safety information, emergency procedures
- relevant documentation requirements and procedures for recording, reporting and maintaining workplace records and information
- risk assessment management and mitigation strategies including hierarchy of control:
 - elimination
 - substitution
 - isolation
 - engineering controls
 - administrative controls
 - personal protective equipment (PPE)
- roles and responsibilities of duty holders as per legislative obligations of Work Health and Safety (WHS)/Occupational Health and Safety (OHS)/Occupational Safety and Health (OSH) requirements, safe work and workplace procedures
- starting procedure of crane as per manufacturer requirements
- set up of:
 - jib
 - fly jib/luffing fly
 - counterweight/s
- stability of load and avoidance of hazards using best crane practice including:
 - allowing for boom deflection
 - boom/jib as low as possible
 - carrying load near to ground surface
 - crane stability
 - gently accelerating and braking on slew/boom to minimise load swing
 - lowering load safely onto appropriate dunnage taking into consideration swing and restrictions of area
 - minimum boom/jib length
 - minimum speed
 - using handheld taglines as required
 - identification of incorrect sling of load
- typical routine problems encountered operating a crane and equipment, and adjustments

required for correction

- weather bureau forecasts and environmental conditions that could impact operation including:
 - lightning
 - wind
 - water impacted ground
 - Ultra Violet (UV) exposure
- workplace standards, requirements, policies and procedures for conducting safe work operations for the mobile slewing crane
- work area suitability based on relevant ground reports including:
 - backfilled ground
 - bitumen
 - concrete
 - hard compacted soil
 - pre-contaminated soils
 - rock
 - rough uneven ground
 - soft soils

Assessment Conditions

Assessors must hold credentials specified within the Standards for Registered Training Organisations current at the time of assessment.

Assessment must satisfy the Principles of Assessment and Rules of Evidence and all regulatory requirements included within the Standards for Registered Training Organisations current at the time of assessment.

Assessment processes and techniques must be appropriate to the language, literacy and numeracy requirements of the work being performed and the needs of the candidate.

Assessment must occur in workplace operational situations. Where this is not appropriate, assessment must occur in simulated workplace operational situations that reflect workplace conditions.

- Simulators must not be used in the assessment of this unit of competency.

Resources for assessment must include access to:

- slewing mobile crane with a MRC greater than 20 tonnes and up to 60 tonnes in safe/serviceable working order in accordance with manufacturers specifications
- appropriate loads as outlined in the performance evidence requirements
- appropriate personnel to sling and direct loads including:
 - dogger or rigger
- communications equipment including:
 - two-way radios

- whistles
- relevant personal protective equipment (PPE)
- relevant documentation for operating a slewing mobile crane with a MRC greater than 20 and up to 60 tonnes including:
 - approved codes of practice and relevant guidance material
 - relevant Australian technical standards
 - manufacturer guidelines (instructions, requirements or checklists), relevant industry standards and operating procedures (where applicable).

Links

Companion Volume Implementation Guide -

<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=df441c6e-213d-43e3-874c-0b3f7036d851>

TLILIC2014 Licence to drive a light rigid vehicle

Modification History

Release 2. This is the second release of this unit of competency in the TLI Transport and Logistics Training Package.

Modification of assessment conditions to remove an implementation barrier.

Release 1. This is the first release of this unit of competency in the TLI Transport and Logistics Training Package.

Application

This unit involves the skills and knowledge required to obtain a licence to drive a light rigid vehicle. It includes systematically and efficiently controlling all vehicle functions, monitoring traffic and road conditions, managing vehicle condition and performance, and effectively managing hazardous situations.

Types of light rigid vehicles include:

- a rigid truck above 4.5 tonnes GVM but less than or equal to 8 tonnes GVM or
- a rigid bus with less than or equal to 8 tonnes GVM or seats more than 12 adults, including the driver.

Assessment of this unit will be undertaken within a licensing examination conducted by, or under the authority of, the relevant state/territory driver licensing authority.

This unit applies to driving that is carried out in accordance with relevant state/territory driver licensing authority licence requirements and regulations for light rigid vehicles.

Driving is performed with limited or minimum supervision, and with limited accountability and responsibility for self and others in achieving the prescribed outcomes.

Driving involves the application of routine vehicle driving principles and procedures to maintain safety and to operate a light rigid vehicle across a variety of driving contexts.

The primary legislative requirements applicable to this unit of competency are state/territory legislation in relation to road use and driver licensing.

This unit addresses the knowledge and skills necessary for the granting of a Light Rigid Driver Licence.

Being awarded this unit of competency is a necessary requirement to obtain a Light Rigid Driver Licence but is only one of several criteria. Prospective licence applicants should check with the state/territory driver licensing authority for other criteria (such as licence tenure and medical fitness) to confirm other eligibility requirements before undertaking training and/or assessment.

Pre-requisite Unit

Not applicable.

Competency Field

LIC – Licensing

Unit Sector

Not applicable.

Elements and Performance Criteria

ELEMENTS

Elements describe the essential outcomes.

PERFORMANCE CRITERIA

Performance criteria describe the performance needed to demonstrate achievement of the element.

1 Drive a light rigid vehicle

- 1.1 Light rigid vehicle is started, steered, manoeuvred, positioned and stopped in accordance with traffic regulations, manufacturer instructions and relevant vehicle handling procedures
- 1.2 Engine power is managed to ensure efficiency and performance, and to minimise engine and transmission damage
- 1.3 Braking system of light rigid vehicle is managed and operated efficiently to ensure effective control of vehicle under all conditions
- 1.4 Driving hazards are identified and/or anticipated and avoided or controlled through defensive driving
- 1.5 Light rigid vehicle is driven in reverse, maintaining visibility and achieving accurate positioning
- 1.6 Light rigid vehicle is parked, shutdown and safely secured in accordance with traffic regulations
- 1.7 Load is safely and effectively restrained

2 Monitor traffic and road conditions

- 2.1 Traffic and road conditions are constantly monitored and acted on to enable safe operation and to ensure no injury to people or damage to property, equipment, loads and facilities
- 2.2 Interaction with other road users is conducted courteously in accordance with road rules to ensure safe and efficient traffic flow

3 Monitor and

- 3.1 Vehicle performance is maintained through pre-operational

maintain vehicle performance

- inspections and vehicle checks
- 3.2 Appropriate signage, lights and equipment are checked for operational effectiveness and for conformity to prescribed traffic regulations

Foundation Skills

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

Range of Conditions

Range is restricted to essential operating conditions and any other variables essential to the work environment.

Non-essential conditions can be found in the Companion Volume Implementation Guide.

Unit Mapping Information

This unit replaces and is equivalent to TLILIC2014B Licence to drive a light rigid vehicle.

Links

Companion Volume implementation guides are found in VETNet -
<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=df441c6e-213d-43e3-874c-0b3f7036d851>

Assessment Requirements for TLILIC2014 Licence to drive a light rigid vehicle

Modification History

Release 2. This is the second release of this unit of competency in the TLI Transport and Logistics Training Package.

Modification of assessment conditions to remove an implementation barrier.

Release 1. This is the first release of this unit of competency in the TLI Transport and Logistics Training Package.

Performance Evidence

Evidence required to demonstrate competence in this unit must be relevant to and satisfy all of the requirements of the elements and performance criteria on at least one occasion and include:

- anticipating and monitoring traffic hazards and taking appropriate action
- applying precautions and required action to eliminate, minimise or control identified hazards
- applying relevant procedures that reflect legislative requirements
- carrying out pre-operational vehicle checks including:
 - checking and topping up fluid levels
 - checking:
 - brakes
 - operation of vehicle lights and indicators
 - tyre pressures
 - visually checking vehicle
- communicating effectively with others
- handling vehicle including:
 - accelerating and braking
 - managing engine performance
 - operating vehicle controls, instruments and indicators
 - positioning and stopping a vehicle
 - reversing a vehicle
 - starting a vehicle
 - steering and manoeuvring a vehicle
 - using defensive driving techniques
- negotiating a range of complex traffic infrastructure (such as roundabouts, traffic lights, stalemate intersections, railway level crossings)
- reading and interpreting relevant instructions, procedures, information and signs.

Knowledge Evidence

Evidence required to demonstrate competence in this unit must be relevant to and satisfy all of the requirements of the elements and performance criteria and include knowledge of:

- driving hazards and related defensive driving techniques
- efficient driving techniques
- engine power management and safe driving strategies
- light rigid vehicle controls, instruments and indicators, and their use
- light rigid vehicle handling procedures
- pre-operational checks carried out on vehicle and related action
- relevant state/territory driver licensing authority road rules, regulations, permit and licence requirements.

Assessment Conditions

As a minimum, assessors must satisfy applicable regulatory requirements, which include requirements in the *Standards for Registered Training Organisations* current at the time of assessment.

As a minimum, assessment must satisfy applicable regulatory requirements, which include requirements in the *Standards for Registered Training Organisations* current at the time of assessment.

Practical driving aspects must be assessed in a vehicle typical of the class as approved by the state/territory driver licensing authority. The use of simulators for driver testing is not permitted.

The assessor must use the mandatory assessment tool provided by the state/territory driver licensing authority to conduct the assessment for this unit, in accordance with licensing authority requirements

The state/territory driver licensing authority may prescribe approved routes, which must be used for the final assessment.

Assessment must occur in the following traffic and road conditions:

- on open and/or private roads with moderate inclines and declines
- typical weather conditions.

and may also include traffic and road conditions at a depot, base or warehouse.

Resources for assessment include:

- a range of relevant exercises, case studies and/or simulations
- applicable documentation including workplace procedures, regulations, codes of practice and operation manuals
- appropriate range of relevant on-road operational or workplace situations
- relevant materials, tools, equipment and personal protective equipment currently used in industry.

Links

Companion Volume implementation guides are found in VETNet -

<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=df441c6e-213d-43e3-874c-0b3f7036d851>

TLILIC2015 Licence to drive a medium rigid vehicle

Modification History

Release 2. This is the second release of this unit of competency in the TLI Transport and Logistics Training Package.

Modification of assessment conditions to remove an implementation barrier.

Release 1. This is the first release of this unit of competency in the TLI Transport and Logistics Training Package.

Application

This unit involves the skills and knowledge required to obtain a licence to drive a medium rigid vehicle. It includes systematically and efficiently controlling all vehicle functions, monitoring traffic and road conditions, managing vehicle condition and performance, and effectively managing hazardous situations.

Types of medium rigid vehicles include:

- two axle rigid trucks, not being a prime mover, above 8 tonnes GVM or
- a two axle bus above 8 tonnes GVM.

Assessment of this unit will be undertaken within a licensing examination conducted by, or under the authority of, the relevant state/territory driver licensing authority.

This unit applies to driving that is carried out in accordance with relevant state/territory driver licensing authority licence requirements and regulations for medium rigid vehicles.

Driving is performed with limited or minimum supervision, and with limited accountability and responsibility for self and others in achieving the prescribed outcomes.

Driving involves the application of routine vehicle driving principles and procedures to maintain safety and to operate a medium rigid vehicle across a variety of driving contexts.

The primary legislative requirements applicable to this unit of competency are state/territory legislation in relation to road use and driver licensing.

This unit addresses the knowledge and skills necessary for the granting of a Medium Rigid Driver Licence.

Being awarded this unit of competency is a necessary requirement to obtain a Medium Rigid Driver Licence but is only one of several criteria. Prospective licence applicants should check with the state/territory driver licensing authority for other criteria (such as licence tenure and medical fitness) to confirm other eligibility requirements before undertaking training and/or assessment.

Pre-requisite Unit

Not applicable.

Competency Field

LIC – Licensing

Unit Sector

Not applicable.

Elements and Performance Criteria

ELEMENTS

Elements describe the essential outcomes.

1 Drive a medium rigid vehicle

PERFORMANCE CRITERIA

Performance criteria describe the performance needed to demonstrate achievement of the element.

- 1.1 Medium rigid vehicle is started, steered, manoeuvred, positioned and stopped in accordance with traffic regulations, manufacturer instructions and relevant vehicle handling procedures
- 1.2 Engine power is managed to ensure efficiency and performance, and to minimise engine and transmission damage
- 1.3 Braking system of medium rigid vehicle is managed and operated efficiently to ensure effective control of vehicle under all conditions
- 1.4 Driving hazards are identified and/or anticipated and avoided or controlled through defensive driving
- 1.5 Medium rigid vehicle is driven in reverse, maintaining visibility and achieving accurate positioning
- 1.6 Medium rigid vehicle is parked, shutdown and safely secured according to traffic regulations
- 1.7 Load is safely and effectively restrained

2 Monitor traffic and road conditions

- 2.1 Traffic and road conditions are constantly monitored and acted on to enable safe operation and to ensure no injury to people or damage to property, equipment, loads and facilities
- 2.2 Interaction with other road users is conducted courteously in accordance with road rules to ensure safe and efficient traffic flow

3 Monitor and

- 3.1 Vehicle performance is maintained through pre-operational

maintain vehicle performance

- inspections and vehicle checks
- 3.2 Appropriate signage, lights and equipment are checked for operational effectiveness and for conformity to prescribed traffic regulations

Foundation Skills

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

Range of Conditions

Range is restricted to essential operating conditions and any other variables essential to the work environment.

Non-essential conditions can be found in the Companion Volume Implementation Guide.

Unit Mapping Information

This unit is equivalent to TLILIC2015B Licence to drive a medium rigid vehicle.

Links

Companion Volume implementation guides are found in VETNet -
<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=df441c6e-213d-43e3-874c-0b3f7036d851>

Assessment Requirements for TLILIC2015 Licence to drive a medium rigid vehicle

Modification History

Release 2. This is the second release of this unit of competency in the TLI Transport and Logistics Training Package.

Modification of assessment conditions to remove an implementation barrier.

Release 1. This is the first release of this unit of competency in the TLI Transport and Logistics Training Package.

Performance Evidence

Evidence required to demonstrate competence in this unit must be relevant to and satisfy all of the requirements of the elements and performance criteria on at least one occasion and include:

- anticipating and monitoring traffic hazards and taking appropriate action
- applying precautions and required action to eliminate, minimise or control identified hazards
- applying relevant procedures that reflect legislative requirements
- carrying out pre-operational vehicle checks including:
 - checking and topping up fluid levels
 - checking:
 - brakes
 - operation of vehicle lights and indicators
 - tyre pressures
 - visually checking vehicle
- communicating effectively with others
- handling vehicle including:
 - accelerating and braking
 - managing engine performance
 - operating vehicle controls, instruments and indicators
 - positioning and stopping a vehicle
 - reversing a vehicle
 - starting a vehicle
 - steering and manoeuvring a vehicle
 - using defensive driving techniques
- negotiating a range of complex traffic infrastructure (such as roundabouts, traffic lights, stalemate intersections, railway level crossings)
- reading and interpreting relevant instructions, procedures, information and signs.

Knowledge Evidence

Evidence required to demonstrate competence in this unit must be relevant to and satisfy all of the requirements of the elements and performance criteria and include knowledge of:

- driving hazards and related defensive driving techniques
- efficient driving techniques
- engine power management and safe driving strategies
- medium rigid vehicle controls, instruments and indicators, and their use
- medium rigid vehicle handling procedures
- pre-operational checks carried out on vehicle and related action
- relevant state/territory driver licensing authority road rules, regulations, permit and licence requirements.

Assessment Conditions

As a minimum, assessors must satisfy applicable regulatory requirements, which include requirements in the *Standards for Registered Training Organisations* current at the time of assessment.

As a minimum, assessment must satisfy applicable regulatory requirements, which include requirements in the *Standards for Registered Training Organisations* current at the time of assessment.

Practical driving aspects must be assessed in a vehicle typical of the class as approved by the state/territory driver licensing authority. The use of simulators for driver testing is not permitted.

The assessor must use the mandatory assessment tool provided by the state/territory driver licensing authority to conduct the assessment for this unit, in accordance with licensing authority requirements.

The state/territory driver licensing authority may prescribe approved routes, which must be used for the final assessment.

Assessment must occur in the following traffic and road conditions:

- on open and/or private roads with moderate inclines and declines
- typical weather conditions.

and may also include traffic and road conditions at a depot, base or warehouse.

Resources for assessment include:

- a range of relevant exercises, case studies and/or simulations
- appropriate range of relevant on-road operational or workplace situations
- applicable documentation including workplace procedures, regulations, codes of practice and operation manuals
- relevant materials, tools, equipment and personal protective equipment currently used in industry.

Links

Companion Volume implementation guides are found in VETNet -

<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=df441c6e-213d-43e3-874c-0b3f7036d851>

TLILIC2016 Licence to drive a heavy rigid vehicle

Modification History

Release 2. This is the second release of this unit of competency in the TLI Transport and Logistics Training Package.

Modification of assessment conditions to remove an implementation barrier.

Release 1. This is the first release of this unit of competency in the TLI Transport and Logistics Training Package.

Application

This unit involves the skills and knowledge required to obtain a licence to drive a heavy rigid vehicle. It includes systematically and efficiently controlling all vehicle functions, monitoring traffic and road conditions, managing vehicle condition and performance, and effectively managing hazardous situations.

Heavy rigid vehicle includes:

- a rigid vehicle, not being an unladen prime mover, with a minimum of three axles and a minimum 15 tonnes GVM or
- a modified three axle prime mover with a certified detachable tray (with capacity to carry 75% of its specified GVM) with a GVM of 15 tonnes and holds dual registration (HC & HR) or
- a three axle articulated bus or
- a three axle bus above 15 tonnes GVM.

Assessment of this unit will be undertaken within a licensing examination conducted by, or under the authority of, the relevant state/territory driver licensing authority.

This unit applies to driving that is carried out in accordance with relevant state/territory driver licensing authority licence requirements and regulations for heavy rigid vehicles.

Driving is performed with limited or minimum supervision, and with limited accountability and responsibility for self and others in achieving the prescribed outcomes.

Driving involves the application of routine vehicle driving principles and procedures to maintain safety and to operate a heavy rigid vehicle across a variety of driving contexts.

The primary legislative requirements applicable to this unit of competency are state/territory legislation in relation to road use and driver licensing.

This unit addresses the knowledge and skills necessary for the granting of a Heavy Rigid Driver Licence.

Being awarded this unit of competency is a necessary requirement to obtain a Heavy Rigid Driver Licence but is only one of several criteria. Prospective licence applicants should check with the state/territory driver licensing authority for other criteria (such as licence tenure and medical fitness) to confirm other eligibility requirements before undertaking training and/or

assessment.

Pre-requisite Unit

Not applicable.

Competency Field

LIC – Licensing

Unit Sector

Not applicable.

Elements and Performance Criteria

ELEMENTS

Elements describe the essential outcomes.

PERFORMANCE CRITERIA

Performance criteria describe the performance needed to demonstrate achievement of the element.

1 Drive a heavy rigid vehicle

- 1.1 Heavy rigid vehicle is started, steered, manoeuvred, positioned and stopped in accordance with traffic regulations, manufacturer instructions and relevant vehicle handling procedures
- 1.2 Engine power is managed to ensure efficiency and performance, and to minimise engine and gear damage
- 1.3 Braking system of heavy rigid vehicle is managed and operated efficiently to ensure effective control of vehicle under all conditions
- 1.4 Driving hazards are identified and/or anticipated and avoided or controlled through defensive driving
- 1.5 Heavy rigid vehicle is driven in reverse, maintaining visibility and achieving accurate positioning
- 1.6 Heavy rigid vehicle is parked, shutdown and safely secured according to traffic regulations
- 1.7 Load is safely and effectively restrained

2 Monitor traffic and

- 2.1 Traffic and road conditions are constantly monitored and acted on to enable safe operation and to ensure no injury to

3 Monitor and maintain vehicle performance	road conditions	people or damage to property, equipment, loads and facilities
	2.2	Interaction with other road users is conducted courteously in accordance with road rules to ensure safe and efficient traffic flow
	3.1	Vehicle performance is maintained through pre-operational inspections and vehicle checks
	3.2	Appropriate signage, lights and equipment are checked for operational effectiveness and for conformity to prescribed traffic regulations

Foundation Skills

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

Range of Conditions

Range is restricted to essential operating conditions and any other variables essential to the work environment.

Non-essential conditions can be found in the Companion Volume Implementation Guide.

Unit Mapping Information

This unit replaces and is equivalent to TLILIC2016B Licence to drive a heavy rigid vehicle.

Links

Companion Volume implementation guides are found in VETNet - <https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=df441c6e-213d-43e3-874c-0b3f7036d851>

Assessment Requirements for TLILIC2016 Licence to drive a heavy rigid vehicle

Modification History

Release 2. This is the second release of this unit of competency in the TLI Transport and Logistics Training Package.

Modification of assessment conditions to remove an implementation barrier.

Release 1. This is the first release of this unit of competency in the TLI Transport and Logistics Training Package.

Performance Evidence

Evidence required to demonstrate competence in this unit must be relevant to and satisfy all of the requirements of the elements and performance criteria on at least one occasion and include:

- anticipating and monitoring traffic hazards and taking appropriate action
- applying precautions and required action to eliminate, minimise or control identified hazards
- applying relevant procedures that reflect legislative requirements
- carrying out pre-operational vehicle checks including:
 - checking and topping up fluid levels
 - checking:
 - brakes
 - operation of vehicle lights and indicators
 - tyre pressures
 - visually checking vehicle
- communicating effectively with others
- handling vehicle including:
 - accelerating and braking
 - managing engine performance
 - operating vehicle controls, instruments and indicators
 - positioning and stopping a vehicle
 - reversing a vehicle
 - starting a vehicle
 - steering and manoeuvring a vehicle
 - using defensive driving techniques
- negotiating a range of complex traffic infrastructure (such as roundabouts, traffic lights, stalemate intersections, railway level crossings)
- reading and interpreting relevant instructions, procedures, information and signs.

Knowledge Evidence

Evidence required to demonstrate competence in this unit must be relevant to and satisfy all of the requirements of the elements and performance criteria and include knowledge of:

- driving hazards and related defensive driving techniques
- efficient driving techniques
- engine power management and safe driving strategies
- heavy rigid vehicle controls, instruments and indicators, and their use
- heavy rigid vehicle handling procedures
- pre-operational checks carried out on vehicle and related action
- relevant state/territory driver licensing authority road rules, regulations, permit and licence requirements.

Assessment Conditions

As a minimum, assessors must satisfy applicable regulatory requirements, which include requirements in the *Standards for Registered Training Organisations* current at the time of assessment.

As a minimum, assessment must satisfy applicable regulatory requirements, which include requirements in the *Standards for Registered Training Organisations* current at the time of assessment.

Practical driving aspects must be assessed in a vehicle typical of the class as approved by the state/territory driver licensing authority. The use of simulators for driver testing is not permitted.

The assessor must use the mandatory assessment tool provided by the state/territory driver licensing authority to conduct the assessment for this unit according to licensing authority requirements.

The state/territory driver licensing authority may prescribe approved routes, which must be used for the final assessment.

Assessment must occur in the following traffic and road conditions:

- on open and/or private roads with moderate inclines and declines
- typical weather conditions.

and may also include traffic and road conditions at a depot, base or warehouse.

Resources for assessment include:

- a range of relevant exercises, case studies and/or simulations
- appropriate range of relevant on-road operational or workplace situations
- applicable documentation including workplace procedures, regulations, codes of practice and operation manuals
- relevant materials, tools, equipment and personal protective equipment currently used in industry.

Links

Companion Volume implementation guides are found in VETNet -
<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=df441c6e-213d-43e3-874c-0b3f7036d851>

TLILIC3017 Licence to drive a heavy combination vehicle

Modification History

Release 2. This is the second release of this unit of competency in the TLI Transport and Logistics Training Package.

Modification of assessment conditions to remove an implementation barrier.

Release 1. This is the first release of this unit of competency in the TLI Transport and Logistics Training Package.

Application

This unit involves the skills and knowledge required to obtain a licence to drive a heavy combination vehicle. It includes systematically and efficiently controlling all vehicle functions, monitoring traffic and road conditions, managing vehicle condition and performance, coupling and uncoupling of trailer, and effectively managing hazardous situations.

A heavy combination vehicles includes:

- a prime mover with a minimum of three axles and a semi-trailer with a minimum of two axles – vehicle must have a GCM rating of at least 24 tonnes or
- a heavy rigid vehicle towing a trailer – trailer must have at least two axles and a GVM of 12 tonnes or more.

Assessment of this unit will be undertaken within a licensing examination conducted by, or under the authority of, the relevant state/territory driver licensing authority.

This unit applies to driving that is carried out in accordance with relevant state/territory driver licensing authority licence requirements and regulations for heavy combination vehicles.

Driving is performed with limited or minimum supervision, and with limited accountability and responsibility for self and others in achieving the prescribed outcomes.

Driving involves the application of routine vehicle driving principles and procedures to maintain safety and to operate a heavy combination vehicle across a variety of driving contexts.

The primary legislative requirements applicable to this unit of competency are state/territory legislation in relation to road use and driver licensing.

This unit addresses the knowledge and skills necessary for the granting of a Heavy Combination Driver Licence.

Being awarded this unit of competency is a necessary requirement to obtain a Heavy Combination Driver Licence but is only one of several criteria. Prospective licence applicants should check with the state/territory driver licensing authority for other criteria (such as licence tenure and medical fitness) to confirm other eligibility requirements before undertaking training and/or assessment.

Pre-requisite Unit

Not applicable.

Competency Field

LIC – Licensing

Unit Sector

Not applicable.

Elements and Performance Criteria

ELEMENTS

Elements describe the essential outcomes.

1 Drive a heavy combination vehicle

PERFORMANCE CRITERIA

Performance criteria describe the performance needed to demonstrate achievement of the element.

- 1.1 Heavy combination vehicle is started, steered, manoeuvred, positioned and stopped in accordance with traffic regulations, manufacturer instructions and relevant vehicle handling procedures
- 1.2 Engine power is managed to ensure efficiency and performance, and to minimise engine and gear damage
- 1.3 Braking system of heavy combination vehicle is managed and operated efficiently to ensure effective control of vehicle under all conditions
- 1.4 Driving hazards are identified and/or anticipated and avoided or controlled through defensive driving
- 1.5 Heavy combination vehicle is driven in reverse, maintaining visibility and achieving accurate positioning
- 1.6 Heavy combination vehicle is parked, shutdown, uncoupled and safely secured in accordance with traffic regulations
- 1.7 Load is safely and effectively restrained
- 2.1 Traffic and road conditions are constantly monitored and acted on to enable safe operation and to ensure no injury to people or damage to property, equipment, loads and facilities
- 2.2 Interaction with other road users is conducted courteously in accordance with road rules to ensure safe and efficient traffic

flow

3 Monitor and maintain vehicle performance	3.1 Vehicle performance is maintained through pre-operational inspections and vehicle checks 3.2 Appropriate signage, lights and equipment are checked for operational effectiveness and for conformity to prescribed traffic regulations 3.3 Prime mover and trailer are correctly aligned and coupled 3.4 Coupled vehicle is checked and tested to ensure it is correctly secured and to confirm it is fully operational

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 TLILIC3017A Licence to drive a heavy combination vehicle.

Links

Companion Volume implementation guides are found in VETNet - <https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=df441c6e-213d-43e3-874c-0b3f7036d851>

Assessment Requirements for TLILIC3017 Licence to drive a heavy combination vehicle

Modification History

Release 2. This is the second release of this unit of competency in the TLI Transport and Logistics Training Package.

Modification of assessment conditions to remove an implementation barrier.

Release 1. This is the first release of this unit of competency in the TLI Transport and Logistics Training Package.

Performance Evidence

Evidence required to demonstrate competence in this unit must be relevant to and satisfy all of the requirements of the elements and performance criteria on at least one occasion and include:

- anticipating and monitoring traffic hazards and taking appropriate action
- applying precautions and required action to eliminate, minimise or control identified hazards
- applying relevant procedures that reflect legislative requirements
- carrying out pre-operational vehicle checks including:
 - checking and topping up fluid levels
 - checking:
 - brakes
 - operation of vehicle lights and indicators
 - tyre pressures
 - visually checking vehicle
- communicating effectively with others
- handling vehicle including:
 - accelerating and braking
 - managing engine performance
 - operating vehicle controls, instruments and indicators
 - positioning and stopping a vehicle
 - reversing a vehicle
 - starting a vehicle
 - steering and manoeuvring a vehicle
 - using defensive driving techniques
- monitoring performance of vehicle, its trailers and its equipment, and taking appropriate action as required
- negotiating a range of complex traffic infrastructure (such as roundabouts, traffic lights, stalemate intersections, railway level crossings)

- reading and interpreting relevant instructions, procedures, information and signs.

Knowledge Evidence

Evidence required to demonstrate competence in this unit must be relevant to and satisfy all of the requirements of the elements and performance criteria and include knowledge of:

- driving hazards and related defensive driving techniques
- efficient driving techniques
- engine power management and safe driving strategies
- heavy combination vehicle controls, instruments and indicators, and their use
- heavy combination vehicle handling procedures
- pre-operational checks carried out on vehicle and related action
- relevant state/territory driver licensing authority road rules, regulations, permit and licence requirements.

Assessment Conditions

As a minimum, assessors must satisfy applicable regulatory requirements, which include requirements in the *Standards for Registered Training Organisations* current at the time of assessment.

As a minimum, assessment must satisfy applicable regulatory requirements, which include requirements in the *Standards for Registered Training Organisations* current at the time of assessment.

Practical driving aspects must be assessed in a vehicle typical of the class as approved by the state/territory driver licensing authority. The use of simulators for driver testing is not permitted.

The assessor must use the mandatory assessment tool provided by the state/territory driver licensing authority to conduct the assessment for this unit, in accordance with licensing authority requirements.

The state/territory driver licensing authority may prescribe approved routes, which must be used for the final assessment.

Assessment must occur in the following traffic and road conditions:

- on open and/or private roads with moderate inclines and declines
- typical weather conditions.

and may also include traffic and road conditions at a depot, base or warehouse.

Resources for assessment include:

- a range of relevant exercises, case studies and/or simulations
- appropriate range of relevant on-road operational or workplace situations
- applicable documentation including workplace procedures, regulations, codes of practice and operation manuals
- relevant materials, tools, equipment and personal protective equipment currently used in industry.

Links

Companion Volume implementation guides are found in VETNet -

<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=df441c6e-213d-43e3-874c-0b3f7036d851>

TLILIC3018 Licence to drive a multi-combination vehicle

Modification History

Release 2. This is the second release of this unit of competency in the TLI Transport and Logistics Training Package.

Modification of assessment conditions to remove an implementation barrier.

Release 1. This is the first release of this unit of competency in the TLI Transport and Logistics Training Package.

Application

This unit involves the skills and knowledge required to obtain a licence to drive a multi-combination vehicle. It includes systematically and efficiently controlling all vehicle functions, monitoring traffic and road conditions, managing vehicle condition and performance, coupling and uncoupling dollies, and effectively managing hazardous situations.

Types of multi-combination vehicles include:

- a heavy combination B-double rated vehicle at least 22 metres in length with more than one trailer, which has all pertinent documentation permits etc. or
- a three axle prime mover with an A and B trailer each with bogie axles.

Assessment of this unit will be undertaken within a licensing examination conducted by, or under the authority of, the relevant state/territory driver licensing authority.

This unit applies to driving that is carried out in accordance with relevant state/territory driver licensing authority licence requirements and regulations for multi-combination vehicles.

Driving is performed with limited or minimum supervision, and with limited accountability and responsibility for self and others in achieving the prescribed outcomes.

Driving involves the application of routine vehicle driving principles and procedures to maintain safety and to operate a multi-combination vehicle across a variety of driving contexts.

The primary legislative requirements applicable to this unit of competency are state/territory legislation in relation to road use and driver licensing.

This unit addresses the knowledge and skills necessary for the granting of a Multi-Combination Driver Licence.

Being awarded this unit of competency is a necessary requirement to obtain a Multi-Combination Driver Licence but is only one of several criteria. Prospective licence applicants should check with the state/territory driver licensing authority for other criteria (such as licence tenure and medical fitness) to confirm other eligibility requirements before undertaking training and/or assessment.

Pre-requisite Unit

Not applicable.

Competency Field

LIC – Licensing

Unit Sector

Not applicable.

Elements and Performance Criteria

ELEMENTS

Elements describe the essential outcomes.

1 Drive a multi-combination vehicle

PERFORMANCE CRITERIA

Performance criteria describe the performance needed to demonstrate achievement of the element.

- 1.1 Multi-combination vehicle is started, steered, manoeuvred, positioned and stopped in accordance with traffic regulations, manufacturer instructions and relevant vehicle handling procedures
 - 1.2 Engine power is managed to ensure efficiency and performance, and to minimise engine and transmission damage
 - 1.3 Braking system of multi-combination vehicle is managed and operated efficiently to ensure effective control of vehicle under all conditions
 - 1.4 Driving hazards are identified and/or anticipated and avoided or controlled through defensive driving
 - 1.5 Multi-combination vehicle is driven in reverse, maintaining visibility and achieving accurate positioning
 - 1.6 Multi-combination vehicle is parked, shutdown, uncoupled and safely secured according to traffic regulations
 - 1.7 Load is safely and effectively restrained
- 2 Monitor traffic and road conditions**
- 2.1 Traffic and road conditions are constantly monitored and acted on to enable safe operation and to ensure no injury to people or damage to property, equipment, loads and facilities

	2.2	Interaction with other road users is conducted courteously in accordance with road rules to ensure safe and efficient traffic flow
3 Monitor and maintain vehicle performance	3.1	Vehicle performance is maintained through pre-operational inspections and vehicle checks
	3.2	Appropriate signage, lights and equipment are checked for operational effectiveness and for conformity to prescribed traffic regulations
	3.3	Prime mover, dollies and trailer are correctly aligned and coupled in proper sequence
	3.4	Coupled vehicle is checked and tested to ensure it is correctly secured and to confirm it is fully operational

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 TLILIC3018B Licence to drive a multi combination vehicle.

Links

Companion Volume implementation guides are found in VETNet - <https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=df441c6e-213d-43e3-874c-0b3f7036d851>

Assessment Requirements for TLILIC3018 Licence to drive a multi-combination vehicle

Modification History

Release 2. This is the second release of this unit of competency in the TLI Transport and Logistics Training Package.

Modification of assessment conditions to remove an implementation barrier.

Release 1. This is the first release of this unit of competency in the TLI Transport and Logistics Training Package.

Performance Evidence

Evidence required to demonstrate competence in this unit must be relevant to and satisfy all of the requirements of the elements and performance criteria on at least one occasion and include:

- anticipating and monitoring traffic hazards and taking appropriate action
- applying precautions and required action to eliminate, minimise or control identified hazards
- applying relevant procedures that reflect legislative requirements
- carrying out pre-operational vehicle checks including:
 - checking and topping up fluid levels
 - checking:
 - brakes
 - operation of vehicle lights and indicators
 - tyre pressures
 - visually checking vehicle
- communicating effectively with others
- handling vehicle including:
 - accelerating and braking
 - managing engine performance
 - operating vehicle controls, instruments and indicators
 - positioning and stopping a vehicle
 - reversing a vehicle
 - starting a vehicle
 - steering and manoeuvring a vehicle
 - using defensive driving techniques
- monitoring performance of vehicle, its trailers and its equipment, and taking appropriate action as required
- negotiating a range of complex traffic infrastructure (such as roundabouts, traffic lights, stalemate intersections, railway level crossings)

- reading and interpreting relevant instructions, procedures, information and signs.

Knowledge Evidence

Evidence required to demonstrate competence in this unit must be relevant to and satisfy all of the requirements of the elements and performance criteria and include knowledge of:

- driving hazards and related defensive driving techniques
- efficient driving techniques
- engine power management and safe driving strategies
- multi-combination vehicle controls, instruments and indicators, and their use
- multi-combination vehicle handling procedures
- pre-operational checks carried out on vehicle and related action
- relevant state/territory driver licensing authority road rules, regulations, permit and licence requirements.

Assessment Conditions

As a minimum, assessors must satisfy applicable regulatory requirements, which include requirements in the *Standards for Registered Training Organisations* current at the time of assessment.

As a minimum, assessment must satisfy applicable regulatory requirements, which include requirements in the *Standards for Registered Training Organisations* current at the time of assessment.

Practical driving aspects must be assessed in a vehicle typical of the class as approved by the state/territory driver licensing authority. The use of simulators for driver testing is not permitted.

The assessor must use the mandatory assessment tool provided by the state/territory driver licensing authority to conduct the assessment for this unit, in accordance with licensing authority requirements.

The state/territory driver licensing authority may prescribe approved routes, which must be used for the final assessment.

Assessment must occur in the following traffic and road conditions:

- on open and/or private roads with moderate inclines and declines
- typical weather conditions.

and may also include traffic and road conditions at a depot, base or warehouse.

Resources for assessment include:

- a range of relevant exercises, case studies and/or simulations
- appropriate range of relevant on-road operational or workplace situations
- applicable documentation including workplace procedures, regulations, codes of practice and operation manuals
- relevant materials, tools, equipment and personal protective equipment currently used in industry.

Links

Companion Volume implementation guides are found in VETNet -

<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=df441c6e-213d-43e3-874c-0b3f7036d851>

UEECD0007 Apply work health and safety regulations, codes and practices in the workplace

Modification History

Release 1. This is the first release of this unit of competency in the UEE Electrotechnology Training Package.

Application

This unit involves the skills and knowledge required to apply work health and safety (WHS)/occupational health and safety (OHS) regulations and codes of practices in the electrotechnology workplace.

It includes applying safe working practices, following workplace procedures for hazard identification and risk control. It also includes electrotechnology worker responsibilities and application for health and safety, risk management and adherence to safety practices as part of electrotechnology work functions when preparing to enter a work area.

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

Pre-requisite Unit

Not applicable

Competency Field

Cross Discipline

Unit Sector

Electrotechnology

Elements and Performance Criteria

ELEMENTS

Elements describe the essential outcomes.

1 Prepare to enter an electrotechnology workplace

PERFORMANCE CRITERIA

Performance criteria describe the performance needed to demonstrate achievement of the element.

1.1 Work area access permits are obtained from appropriate person/s in accordance with workplace procedures

	1.2	Relevant workplace WHS/OHS safety regulations and codes of practices are identified and followed when entering the electrotechnology work area
	1.3	Safe work methods for controlling risks are obtained, read and applied prior to undertaking work activity in accordance with WHS/OHS workplace procedures
	1.4	Preparation for electrical and non-electrical isolation is carried out to prevent creation of hazards from loss of machine/system/process control in accordance with WHS/OHS workplace procedures
	1.5	Tools, equipment and chemicals required for the electrotechnology work are checked for safety and correct functionality in accordance with workplace procedures and regulatory requirements
	1.6	Personal protective equipment (PPE) is worn appropriate to the electrotechnology work area and in accordance with workplace procedures
2	Apply safe electrotechnology working practices	
	2.1	Risk control work measures are implemented in accordance with WHS/OHS workplace procedures
	2.2	Procedures for dealing with accidents, fires and emergencies are followed in accordance with workplace procedures, scope of responsibility and capabilities
	2.3	Safe work methods are applied when working at heights including safe and effective use of safety equipment
	2.4	Safe work methods are used when undertaking lifting, lowering, pushing, pulling, carrying or otherwise moving, holding or restraining workplace tasks in accordance with relevant code of practice
	2.5	Safe work methods for removing an electric shock victim from a live electrical situation are demonstrated in accordance with workplace emergency management procedures
	2.6	Working area is kept clean, neat and tidy in accordance with workplace housekeeping procedures
3	Follow electrotechnology workplace procedures for hazard identification and	
	3.1	Hazards are identified, control measures implemented and reviewed through regular active participation in the consultation process with employer and other employees

risk control

- 3.2** Hazards in the work area are identified and reported to relevant person/s in accordance with workplace procedures
- 3.3** WHS/OHS documentation and incident records are completed in accordance with regulatory requirements and workplace procedures
- 3.4** Workplace instructions are followed in accordance with regulatory requirements 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 Companion Volume Implementation Guide.

Unit Mapping Information

This unit replaces and is equivalent to UEENEEE101A Apply Occupational Health and Safety regulations, codes and practices in the workplace.

Links

Companion Volume implementation guides are found in VETNet - -
<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=b8a8f136-5421-4ce1-92e0-2b50341431b6>

Assessment Requirements for UEECD0007 Apply work health and safety regulations, codes and practices in the workplace

Modification History

Release 1. This is the first release of this unit of competency in the UEE Electrotechnology 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 two separate occasions and include:

- applying relevant work health and safety (WHS)/occupational health and safety (OHS) regulations, legislation, codes of practices and procedures in the workplace, including:
 - identifying typical hazards associated with work environments and assessing risk/s in an electrotechnology workplace
 - applying and reviewing risk control measures to minimise, control or eliminate identified hazards
 - reporting hazards to relevant person/s
 - applying safe working practices/methods
 - contributing to WHS/OHS consultative processes
- following relevant workplace emergency management procedures and instructions relating to WHS/OHS and emergency incidents
- selecting and using appropriate personal protective equipment (PPE)
- applying correct manual handling techniques
- confirming (safe) isolation of an electrical supply and isolation of potential electrical and non-electrical hazards has been completed by an authorised person
- demonstrating safe methods of removing an electric shock victim from a live electrical situation
- selecting an appropriate ladder for a given situation and performing a safety check before use
- completing relevant WHS/OHS documentation.

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:

- effective verbal and written communication techniques
- electrotechnology work environment, including:
 - appropriate fire extinguisher for a given type of fire
 - commonly used workplace safety signs

- relevant industry standard for safe workplace procedures
- risk assessment documentation
- typical hazards associated with a range of work environments
- use of fire extinguishers
- housekeeping and potential hazards in relation to improper housekeeping
- workplace procedures used to control the risks associated with workplace hazards
- legal requirements relevant to WHS/OHS in the workplace, including:
 - appropriate personal protective equipment (PPE)
 - asbestos awareness and reporting hazardous gases, including supervisory requirements and duty of care
 - difference between hazards and risks
 - duty holder responsibilities, as specified in WHS/OHS Acts, regulations and codes of practice
 - employer and employee responsibilities, rights and obligations
 - general aims and objectives of the relevant state or territory legislation relating to WHS/OHS
 - hazards that may be present in the electrotechnology workplace, the harm they can cause and how this harm occurs
 - housekeeping and potential hazards in relation to improper housekeeping
 - major functions of safety committees and representatives
 - powers of health and safety inspectors
 - relevant WHS/OHS regulations, codes and practices
 - underlying principles of WHS
- life support - cardiopulmonary resuscitation (CPR) in the workplace, including:
 - first aid
 - responsibilities of the first aider
 - priorities of first aid management for any accident or injury
 - procedures required at an accident scene
 - legal and ethical issues, which may impact on the management of care
 - 'duty of care'
 - examination of a casualty for injuries
 - effect of cardiopulmonary arrest on the body
 - managing simulated conditions of airway obstruction, respiratory arrest and cardiopulmonary arrest
 - single and two-person CPR
 - signs and symptoms of an altered level of consciousness
 - management of simulation of a casualty with an altered level of consciousness
 - signs and symptoms of shock
 - management of simulation of a casualty in shock
- relevant safe work method statements (SWMS)/job safety analysis (JSA) or risk mitigation processes, including:

- emergency management plan
- hierarchy of WHS/OHS hazard risk control measures
- principles of risk assessment/management and required documentation
- typical hazards associated with electrotechnology work environments and their control, including:
 - asbestos, including:
 - common types of asbestos containing building materials
 - warning signs used to identify the presence of asbestos
 - effects of asbestos on the human body
 - requirements for reporting the presence of asbestos
 - silica, including:
 - types of materials that contain crystalline silica (silica dust)
 - methods of releasing silica dust
 - recommended levels of exposure to crystalline silica
 - effects of crystalline silica on the human body
 - hazardous gases
 - chemicals in the workplace, including:
 - hazardous substances and dangerous goods and their classifications
 - labelling and storage requirements for chemicals
 - purpose and interpretation of safety data sheets (SDS)/material safety data sheets (MSDS)
 - confined spaces, including:
 - control measures for working in a designated confined space
 - hazards associated with working in a confined space
 - workplace situations that could be classified as a confined space
 - physical and psychological hazards, including excessive noise, vibration, thermal stress, radiation, lasers, occupational overuse syndrome, stress, drugs and alcohol
 - safe manual handling principles, including:
 - procedures and methods for manual handling
 - situations that may cause manual handling injuries
 - types of manual handling injuries and their effect
 - working at heights, including:
 - hazards and precautions associated with working on ladders, elevated work platforms (EWP) and scaffolds
 - identification of work area as a height risk and use appropriate safety equipment to prevent a fall
 - working safely with electricity, including:
 - effects of electric shock on the human body
 - protection offered by a residual current device (RCD)
 - need for ensuring the (safe) isolation of an electrical supply

- appropriate method of removing an electric shock victim from a live electrical situation
- precautions that can minimise the chance of electric shock (earthing, extra-low voltage (ELV), fuses, circuit breakers and RCDs)
- common causes of electrical accidents.

Assessment Conditions

Assessors must hold credentials specified within the Standards for Registered Training Organisations current at the time of assessment.

Assessment must satisfy the Principles of Assessment and Rules of Evidence and all regulatory requirements included within the Standards for Registered Training Organisations current at the time of assessment.

Assessment must occur in workplace operational situations where it is appropriate to do so; where this is not appropriate, assessment must occur in simulated workplace operational situations that replicate workplace conditions.

Assessment processes and techniques must be appropriate to the language, literacy and numeracy requirements of the work being performed and the needs of the candidate.

Resources for assessment must include access to:

- a range of relevant exercises, case studies and/or other simulations
- relevant and appropriate materials, tools, equipment and personal protective equipment (PPE) currently used in industry
- applicable documentation, including workplace procedures, emergency management plan, equipment specifications, regulations, codes of practice and operation manuals
- relevant WHS/OHS legislation, regulations and codes of practice related to hazards management in the electrotechnology industry and workplace.

Links

Companion Volume implementation guides are found in VETNet - -
<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=b8a8f136-5421-4ce1-92e0-2b50341431b6>

UEECD0010 Compile and produce an energy sector detailed report

Modification History

Release 1. This is the first release of this unit of competency in the UEE Electrotechnology Training Package.

Application

This unit involves the skills and knowledge required to compile and produce an energy sector detailed report.

It includes planning; identifying information sources; collecting, analysing and formatting information applicable to the electrotechnology industry in developing and obtaining approval for energy sector report.

This unit is typically for technicians working as part of a product/application/service research and/or design, development and implementation team. This generally involves working closely with a range of management and production/operations personnel and requires balancing the business and technical sides of the research process.

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

Pre-requisite Unit

Not applicable

Competency Field

Cross Discipline

Unit Sector

Electrotechnology

Elements and Performance Criteria

ELEMENTS

Elements describe the essential outcomes.

PERFORMANCE CRITERIA

Performance criteria describe the performance needed to demonstrate achievement of the element.

1 Identify energy sector report requirement	1.1 Work health and safety (WHS)/occupational health safety (OHS) requirements and workplace procedures are identified and applied 1.2 Report writing techniques are reviewed and adopted in accordance with workplace procedures 1.3 Scope and parameters of energy sector report are evaluated and identified in accordance with workplace procedures 1.4 Criteria from other related works impacting on the report development are determined from relevant sources 1.5 Report information and sources are identified, and availability and reliability of information is assessed for relevance
2 Develop energy sector report	2.1 Scenarios/requirements identified in consultation with relevant person/s and industry regulatory and job requirements are included in report 2.2 Report is developed in collaboration with relevant person/s 2.3 Relevant person/s is identified to assist in the compilation of the report 2.4 Report is reviewed and adjusted to rectify anomalies 2.5 Report is compiled in accordance with workplace policies and procedures 2.6 Research information is analysed and compiled for the final report
3 Obtain approval for final energy sector report	3.1 Report is presented, discussed and authorised by relevant person/s 3.2 Modifications to report resulting from presentation/discussion with authorised person/s are negotiated 3.3 Final report is presented and approval obtained from authorised person/s

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 UEE Electrotechnology Training Package Companion Volume Implementation Guide.

Unit Mapping Information

This unit replaces and is equivalent to UEENEEE124A Compile and produce an energy sector detailed report.

Links

Companion Volume implementation guides are found in VETNet - -
<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=b8a8f136-5421-4ce1-92e0-2b50341431b6>

Assessment Requirements for UEECD0010 Compile and produce an energy sector detailed report

Modification History

Release 1. This is the first release of this unit of competency in the UEE Electrotechnology 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 two separate occasions and include:

- analysing energy sector report information
- applying relevant work health and safety (WHS)/occupational health safety (OHS) requirements
- collaborating with relevant person/s in compiling report
- compiling and producing an energy sector report, including:
 - identifying workplace policies and procedures
 - developing report brief incorporating scenarios and requirements
 - communicating with relevant person/s to determine report requirements
 - identifying scope and parameters of report
 - determining impact of related works
 - developing design brief incorporating scenarios and all requirements
- identifying source, availability and reliability of information for report
- obtaining approval for final energy sector report
- presenting and discussing report with relevant person/s, including presenting final report and reviewing and adjusting report to rectify anomalies
- successfully negotiating alterations to proposed report.

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:

- communicating with personnel, including:
 - oral communications
 - written procedures and work instructions
- communicating with suppliers
- communicating with customers
- purpose and extent of maintaining work activities records in an enterprise, including:

- types of records for maintaining work activities in an enterprise
- methods for recording and maintaining work records
- work records required by regulation requirements
- using basic computer functions including:
 - starting up
 - selecting application
 - entering information
 - saving
 - printing
- techniques of analysis, including:
 - use of appropriate sampling techniques to collect data
 - types of data and classification
 - effective questionnaire design
 - data collection errors
 - frequency tables
 - statistical diagrams drawing and interpretation
 - the general shape of a frequency distribution
 - different types of diagrams
 - mean time between failures calculations
- summary of statistics, including:
 - measures of central tendency
 - measures of dispersion
 - a 5-point summary for a given data set, box and whisker plot distribution
 - data sets comparison using measures of centre and spread
 - the effect of outliers on measures of centre and spread
 - use computer programs or calculators to simplify calculations
- correlation and regression, including:
 - bivariate data and scatter diagrams
 - product-moment correlation coefficient calculation and interpretation
 - difference between causation and correlation
 - equations of regression lines from bivariate data with a calculator and line plotting on a scatter diagram
 - using the equation of regression to make predictions in practical situations
 - investigation of practical problems using correlation and regression
- investigation and reporting, including:
 - presentation of a well formatted report with a clearly stated aim
 - using the internet to obtain relevant data
 - description of the statistical method and design chosen to meet the aim of the investigation
 - statistical analysis and results reporting

- evaluation and interpretation of the results of the investigation
- discussion of the investigation with reference to real world applications
- chronology of the investigation
- analysis techniques
- collaboration and communication techniques
- presentation and negotiation skills
- relevant job safety assessments or risk mitigation processes
- relevant WHS/OHS legislated requirements
- relevant workplace documentation
- relevant workplace policies and procedures
- report writing techniques.

Assessment Conditions

Assessors must hold credentials specified within the Standards for Registered Training Organisations current at the time of assessment.

Assessment must satisfy the Principles of Assessment and Rules of Evidence and all regulatory requirements included within the Standards for Registered Training Organisations current at the time of assessment.

Assessment must occur in workplace operational situations where it is appropriate to do so; where this is not appropriate, assessment must occur in simulated workplace operational situations that replicate workplace conditions.

Assessment processes and techniques must be appropriate to the language, literacy and numeracy requirements of the work being performed and the needs of the candidate.

Resources for assessment must include access to:

- a range of relevant exercises, case studies and/or other simulations
- relevant and appropriate materials, tools, equipment and personal protective equipment (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=b8a8f136-5421-4ce1-92e0-2b50341431b6>

UEECD0019 Fabricate, assemble and dismantle utilities industry components

Modification History

Release 1. This is the first release of this unit of competency in the UEE Electrotechnology Training Package.

Application

This unit involves the skills and knowledge required to fabricate, assemble and dismantle utilities industry components using fitting and metal fabrication techniques.

It includes the safe use of hand tools, fixed and portable power tools; cutting, shaping, joining and fixing; using metallic and non-metallic materials; dismantling and assembling equipment; mechanical measurement and marking out; and, reading drawings/diagrams.

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

Pre-requisite Unit

UEECD0007 Apply work health and safety regulations, codes and practices in the workplace

Competency Field

Cross Discipline

Unit Sector

Electrotechnology

Elements and Performance Criteria

ELEMENTS

Elements describe the essential outcomes.

1 Prepare for dismantling, assembling and fabrication work

PERFORMANCE CRITERIA

Performance criteria describe the performance needed to demonstrate achievement of the element.

1.1 Work health and safety (WHS)/occupational health and safety (OHS) procedures for a given work area are identified and applied in accordance with workplace procedures

- 1.2 WHS/OHS risk control measures and workplace procedures are followed in preparation for the work
 - 1.3 Work instructions and relevant workplace procedures, industry standards, codes of practice and regulations for dismantling, assembling and fabrication are identified and applied
 - 1.4 Scope of work to be undertaken is obtained from relevant documentation and from work supervisor
 - 1.5 Advice is sought from work supervisor to ensure work is coordinated effectively with other persons
 - 1.6 Materials required for work are identified and obtained in accordance with workplace procedures
 - 1.7 Tools, equipment and measuring devices needed to carry out the work are obtained and checked for correct operation and safety
- 2 Dismantle and assemble utilities industry apparatus**
- 2.1 WHS/OHS risk control measures and workplace procedures for dismantling and assembling apparatus are followed
 - 2.2 Circuits/apparatus/plant are checked and isolation confirmed in accordance with WHS/OHS workplace requirements and procedures
 - 2.3 Relevant tools are selected and used correctly and safely in accordance with manufacturer instructions and workplace procedures
 - 2.4 Relevant manufacturer guides and instructions are followed when dismantling and assembling apparatus
 - 2.5 Apparatus components are marked or tagged correctly during dismantling to ensure correct and efficient reassembly in accordance with workplace procedures
 - 2.6 Dismantled components and parts are stored to protect them against loss or damage in accordance with manufacturer instructions and workplace procedures
 - 2.7 Apparatus is dismantled and assembled without waste of materials and energy, damage to apparatus, the surrounding environment or services
 - 2.8 Unplanned events are referred to supervisor for

directions in accordance with workplace procedures

2.9 Quality checks are carried out in accordance with workplace procedures

2.10 Worksite is tidied, tools and equipment cleaned and securely stored in accordance with workplace procedures

2.11 Work supervisor is notified of dismantling and assembling apparatus completion in accordance with workplace procedures

3 Fabricate utilities industry components

3.1 WHS/OHS risk control measures and workplace procedures for fabricating components are followed

3.2 Circuits/apparatus/plant are checked and isolated in accordance WHS/OHS workplace requirements and procedures

3.3 Relevant tools and equipment are selected, used correctly and safely in accordance with manufacturer instructions and workplace procedures

3.4 Drawings, diagrams and instructions for fabrication of mechanical components are followed in accordance with workplace procedures

3.5 Component dimensions are determined directly by measuring, or by calculation from information supplied in job drawings and instructions

3.6 Mechanical components are fabricated by measuring, marking out, cutting, joining and fixing accurately using relevant equipment and tools, minimising waste of materials and energy and/or damage to the surrounding environment or services

3.7 Unplanned events are referred to supervisor for directions in accordance with workplace procedures

3.8 Quality checks are carried out in accordance with workplace procedures

3.9 Worksite is tidied, tools and equipment cleaned and securely stored in accordance with workplace procedures

3.10 Work supervisor is notified of fabrication completion in

accordance with workplace procedures

Foundation Skills

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

Range of Conditions

Range is restricted to essential operating conditions and any other variables essential to the work environment.

Non-essential conditions may be found in the UEE Electrotechnology Training Package Companion Volume Implementation Guide.

Hand tools must include:	• drills and drilling with different types of drills used in the electrotechnology industry • tools for holding, cutting, driving, shaping, breaking and bending materials • tools for cutting metallic and non-metallic material
Relevant workplace policies and procedures must include:	• circuits/apparatus/plant isolation procedures • workplace referral and reporting procedures
Sheet metal work must include:	• application of a range of fabrication material types • use of tools for cutting, bending, folding and punching sheet metals
Tapping and threading must include:	• tools for cutting internal and external threads to materials used for electrotechnology work
Workshop planning processes and materials must include:	• metallic and non-metallic materials used in the electrotechnology industry and their application

Unit Mapping Information

This unit replaces and is equivalent to UEENEEE102A Fabricate, assemble and dismantle utilities industry components.

Links

Companion Volume implementation guides are found in VETNet - -

<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=b8a8f136-5421-4ce1-92e0-2b50341431b6>

Assessment Requirements for UEECD0019 Fabricate, assemble and dismantle utilities industry components

Modification History

Release 1. This is the first release of this unit of competency in the UEE Electrotechnology 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 relevant work health and safety (WHS)/occupational health and safety (OHS) requirements
- applying sustainable energy work practices to reduce waste when marking out
- complying with relevant electrical regulations and legislations
- consulting with work supervisor
- correctly marking, tagging and storing components during dismantling
- dealing with unplanned events in accordance with workplace procedures in a manner that minimises risk to personnel and equipment
- drawing freehand mechanical components showing all information needed for its manufacture/fabrication
- fabricating, dismantling, assembling utilities industry components, including:
 - applying safety procedures when using holding and cutting tools
 - cutting a thread on metallic components
 - demonstrating safe use of a bench drill
 - dismantling electrical, electronic, instrumentation or refrigeration/air conditioning piece of equipment using correct procedures
 - assembling electrical, electronic, instrumentation or refrigeration/air conditioning piece of equipment using correct procedures
 - drilling metallic and non-metallic components
 - fabricating components using sheet metal and fabrication tools
- following manufacturer guides and instructions
- following work instructions
- holding and cutting materials accurately
- interpreting and completing workplace documentation
- interpreting mechanical drawings/diagrams and instructions used in the electrotechnology industry
- joining components using correct method and equipment
- laying out a drawing of mechanical components using engineering drawing convention

- marking out, cut, bend, drill and join sheet metal
- measuring, calculating and marking out a project accurately in accordance with workplace procedures
- selecting and using portable power tools correctly and safely
- selecting and using relevant hand tools correctly and safely
- tapping and threading metallic and/or non-metallic components
- using vernier calipers and micrometers to measure components
- maintaining a clean worksite and equipment
- modifying metal enclosures
- demonstrating safe drilling practices
- modifying plastic enclosures
- performing quality checks
- planning for dismantling, assembling and fabrication work.

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:

- mechanical drawing interpretation and sketching, including:
 - industry drawing standards of mechanical components
 - abbreviations and symbols used in drawing of mechanical components
 - interpretation of mechanical drawings commonly used in the electrotechnology industry (orthogonal projection, third angle - detail and assembly drawings, and pictorial views)
 - laying out a drawing of mechanical components using engineering drawing convention
 - freehand drawings of mechanical components showing all information needed for its manufacture/fabrication
- workshop planning and materials, including:
 - methods used to work safely in an industrial work environment
 - typical non-electrical hazards in the workplace
 - control measures for dealing with hazards identified
 - type of metallic and non-metallic materials used in the electrotechnology industry and application of the common materials
 - planning process
- measuring and marking out, including:
 - reasons for measuring and marking out
 - sustainable energy work practices related to reducing waste when marking out
- holding and cutting materials, including:
 - procedures for using a range of tools for cutting, shaping, and finishing metallic and non-metallic materials
 - safety procedures when using holding and cutting tools

- drills and drilling, including:
 - types of drills used in the electrotechnology industry
 - drilling metallic and non-metallic components
 - safe use of a bench drill
- tapping and threading including type and size of commonly used threads used in electrotechnology work
- general hand tools used in electrotechnology work
- joining techniques, including:
 - machine screws
 - welding, brazing or soldering techniques
- portable power tools in electrotechnology work, including:
 - applications of portable power tools
 - using portable power tools
 - fabricating components using power tools
 - requirements for testing and tagging cord connected electrical equipment
- compressed gas operated tools in electrotechnology work
- sheet metal work, including:
 - types of sheet metal materials used in the electrotechnology work
 - names and applications of the types of fabrication materials
 - techniques used in fabricating sheet metal, including cutting, bending, drilling/punching, joining and cutting mitres
 - marking out, cutting, bending, drilling and/or cutting and/or punching holes, joining and cutting mitred joints using sheet metal
 - sustainable energy work practices to reducing waste when fabricating using sheet metal
- low tolerance measurement, including:
 - tolerance
 - techniques in using vernier callipers and micrometers
- dismantling and assembly techniques, including procedures for ensuring the safe treatment of dismantled components
- relevant tools for specific tasks, including:
 - tapping and threading
 - general hand tools used in electrotechnology work
 - joining
 - portable electric power tools
 - dismantling and assembly techniques
 - measuring and marking out
 - holding and cutting metallic and non-metallic materials
 - sheet metal work

Assessment Conditions

Assessors must hold credentials specified within the Standards for Registered Training Organisations current at the time of assessment.

Assessment must satisfy the Principles of Assessment and Rules of Evidence and all regulatory requirements included within the Standards for Registered Training Organisations current at the time of assessment.

Assessment must occur in workplace operational situations where it is appropriate to do so; where this is not appropriate, assessment must occur in simulated workplace operational situations that replicate workplace conditions.

Assessment processes and techniques must be appropriate to the language, literacy and numeracy requirements of the work being performed and the needs of the candidate.

Resources for assessment must include access to:

- a range of relevant exercises, case studies and/or other simulations
- relevant and appropriate materials, tools, equipment and personal protective equipment (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=b8a8f136-5421-4ce1-92e0-2b50341431b6>

UEECD0024 Implement and monitor energy sector WHS policies and procedures

Modification History

Release 1. This is the first release of this unit of competency in the UEE Electrotechnology Training Package.

Application

This unit involves the skills and knowledge required to implement and monitor energy sector work health and safety (WHS)/occupational health and safety (OHS) policies and procedures.

It includes providing WHS/OHS information to the work group; implementing and monitoring participative arrangements for the management of WHS/OHS; and implementing and monitoring the workplace procedures for identifying hazards, assessing and controlling risks. It also includes implementing and monitoring procedures for dealing with hazardous events, WHS/OHS training, and maintaining WHS/OHS records.

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

Pre-requisite Unit

Not applicable

Competency Field

Cross Discipline

Unit Sector

Electrotechnology

Elements and Performance Criteria

ELEMENTS

Elements describe the essential outcomes.

- 1 Provide WHS/OHS information to the work group**

PERFORMANCE CRITERIA

Performance criteria describe the performance needed to demonstrate achievement of the element.

- 1.1** Relevant WHS/OHS legislation and codes of practice are explained to work group

	1.2	Relevant WHS/OHS workplace policies, procedures and programs are available in a readily accessible manner and explained to work group
	1.3	Identified hazards, risk assessments and risk control measures are identified, supplied and explained to the work group
2 Implement and monitor participative arrangements for management of WHS/OHS	2.1	Workplace procedures for consultation of WHS/OHS issues are implemented, monitored and communicated to work group
	2.2	Issues raised through consultation are dealt with and resolved promptly or referred to relevant person/s for resolution in accordance with workplace procedures
	2.3	Outcomes of WHS/OHS consultation issues are communicated to the work group
3 Implement and monitor procedures for identifying hazards, assessing risk and controlling risks	3.1	Hazards are identified, risks are assessed and control measures are implemented
	3.2	Risks control measures are implemented and adherence by work group is monitored in accordance with workplace procedures
	3.3	Inadequacies in existing risk control measures are identified in accordance with hierarchy of risk control and reported to relevant person/s
	3.4	Inadequacies in resource allocation for implementation of risk control measures are identified and reported to relevant person/s
4 Implement procedures for dealing with hazardous events	4.1	Workplace procedures for responding to hazardous events are implemented to ensure prompt control action is taken
	4.2	Hazardous events are investigated to identify their cause in accordance with workplace procedures
	4.3	Control measures to minimise risks of hazardous events based on the hierarchy of risk control are implemented or referred to relevant person/s

5 Implement and monitor procedures for WHS/OHS training	5.1	WHS/OHS training needs analysis of work group is performed to identify competency gaps
	5.2	Identified WHS/OHS training gaps are fulfilled by training programs in consultation with relevant person/s
6 Implement and monitor procedures for maintaining WHS/OHS records	6.1	WHS/OHS records for work area are completed in accordance with workplace procedures and relevant legislative requirements
	6.2	Aggregate information from work area WHS/OHS records are used to identify hazards and monitor risk control procedures in accordance with workplace procedures

Foundation Skills

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

Range of Conditions

Range is restricted to essential operating conditions and any other variables essential to the work environment.

Non-essential conditions may be found in the UEE Electrotechnology Training Package Companion Volume Implementation Guide.

Implementing and monitoring energy sector WHS/OHS policies and procedures must include the following attributes:

- organisation's WHS/OHS obligations
- participative arrangements
- implementation and monitoring safety information to staff
- safety procedures
- safety records maintenance
- training

Unit Mapping Information

This unit replaces and is equivalent to UEENEEE117A Implement and monitor energy sector OHS policies and procedures.

Links

Companion Volume implementation guides are found in VETNet - -
<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=b8a8f136-5421-4ce1-92e0-2b50341431b6>

Assessment Requirements for UEECD0024 Implement and monitor energy sector WHS policies and procedures

Modification History

Release 1. This is the first release of this unit of competency in the UEE Electrotechnology 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 relevant work health and safety (WHS)/occupational health and safety (OHS) requirements in the energy sector, including:
 - communicating WHS/OHS issues with relevant person/s, and providing and explaining WHS/OHS information to a work group
 - implementing and monitoring participative arrangements for management of WHS/OHS
 - implementing and monitoring procedures for identifying hazards, and assessing and controlling risks
 - implementing and monitoring workplace procedures for WHS/OHS and maintaining records, including existing hazard register
 - implementing risk control measures using hierarchy of risk control
 - investigating hazardous events to identify causes
- dealing with unplanned events/situations in accordance with workplace procedures in a manner that minimises risk to personnel and equipment
- implementing procedures for dealing with hazardous events
- performing training needs analysis and identifying training gaps
- resolving WHS/OHS issues raised.

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:

- provisions of relevant WHS/OHS legislation
- principles and practice of effective WHS/OHS management
- workplace hazards, range and selection of control measures
- organisational WHS/OHS management systems and policies and procedures needed for legislative compliance
- impact of characteristics and composition of the workforce on WHS/OHS management

- relevance of WHS/OHS management to other organisational management policies, procedures and systems
- analysis of entire work environment and judge WHS/OHS interventions
- analysis of relevant workplace data
- ability to assess resources needed for risk control
- communication techniques
- relevant WHS/OHS legislation, including:
 - resources needed for risk control
 - hierarchy of risk control measures
 - relevant safe work method statements (SWMS)/job safety assessments or risk mitigation processes
 - workplace hazards, range and selection of risk control measures
- relevant workplace documentation
- relevant workplace policies and procedures
- training needs analysis.

Assessment Conditions

Assessors must hold credentials specified within the Standards for Registered Training Organisations current at the time of assessment.

Assessment must satisfy the Principles of Assessment and Rules of Evidence and all regulatory requirements included within the Standards for Registered Training Organisations current at the time of assessment.

Assessment must occur in an energy sector workplace operational situation where it is appropriate to do so; where this is not appropriate, assessment must occur in a simulated energy sector workplace operational situation that replicates 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 personal protective equipment (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=b8a8f136-5421-4ce1-92e0-2b50341431b6>

UEECD0027 Participate in development and follow a personal competency development plan

Modification History

Release 1. This is the first release of this unit of competency in the UEE Electrotechnology Training Package.

Application

This unit involves the skills and knowledge required to participate in development and follow a personal competency development plan.

It includes the application of skills and knowledge in taking responsibility for one's own competency development; participating in the development of a personal competency development plan, responsibilities and obligations; following activities for developing competency; self-monitoring competency development and meeting learner obligations for periodic reporting of competency development activities.

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

Pre-requisite Unit

Not applicable

Competency Field

Cross Discipline

Unit Sector

Electrotechnology

Elements and Performance Criteria

ELEMENTS

Elements describe the essential outcomes.

1 Participate in development of a personal competency development

PERFORMANCE CRITERIA

Performance criteria describe the performance needed to demonstrate achievement of the element.

1.1 Nature of competency-based training is determined from consultation with relevant person/s

plan

	1.2	Responsibilities/obligations of trainees/learners, employers, trainers and assessors are identified from discussions with relevant person/s
	1.3	Competency development plans are confirmed in consultation with relevant person/s
2 Follow a personal competency development plan	2.1	Competency development plan is followed
	2.2	Opportunities to practise skills and apply knowledge relevant to competencies are followed
	2.3	Assistance is sought from relevant person/s to overcome difficulties in developing skills and applying knowledge in relevant competencies
	2.4	Progress in competency development is self-monitored against the competency development plan and workplace procedures
	2.5	Modifications to the competency development plan are made in consultation with appropriate person/s
	2.6	Obligations are met for periodic and timely reporting of competency development activities

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 UEE Electrotechnology Training Package Companion Volume Implementation Guide.

Competency development plan must include the following:

- applying a competency plan for work activities
- competency development self-monitoring
- personal competency development plan
- periodic reporting of competency activities

- responsibilities and obligation under the competency development plan
- responsibility for one's own competency development in developing and applying skills and knowledge
- applying a training plan to work activities

Unit Mapping Information

This unit replaces and is equivalent to UEENEEE038B Participate in development and follow a personal competency development plan.

Links

Companion Volume implementation guides are found in VETNet - -

<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=b8a8f136-5421-4ce1-92e0-2b50341431b6>

Assessment Requirements for UEECD0027 Participate in development and follow a personal competency development plan

Modification History

Release 1. This is the first release of this unit of competency in the UEE Electrotechnology 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 and include:

- applying relevant work health and safety (WHS)/occupational health and safety (OHS) requirements
- identifying opportunities to develop competency
- following competency development plan including following aspects of the training plan
- participating in a personal competency plan for work activities
- periodic reporting of competency plan activities
- seeking assistance to overcome difficulties in developing competency as needed.

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:

- competency development (training) plans, including:
 - state/territory requirements (Acts/regulations)
 - competency development (training) contracts
 - competency development (training) period
 - purpose of competency development (training) plans
 - process in developing competency development (training) plans
 - parties involved in the competency development (training) plan
- qualification structure, including:
 - scope of work
 - Training Packages - UEE Electrotechnology
 - units of competency
 - structure of qualification
 - off-the-job requirements
 - on-the-job requirements
- responsibilities of parties to the contract, including:

- employer responsibilities
- learner responsibilities
- RTO responsibilities
- State/Territory Training Authorities (STA)
- electrotechnology industry career opportunities, including:
 - industry areas
 - qualification levels
 - career paths
- industry customs and practices, including:
 - industry bodies, employer and employee representatives
 - regulatory bodies including licensing/registration, WHS/OHS, industrial relations (IR), training authorities, apprentice/trainee regulation
 - vocational education and training (VET) system, Australian Qualification Framework (AQF) and credentials
- monitoring of workplace evidence, including:
 - workplace exposure and practices and relationship with units of competency
 - methods of collecting workplace evidence
 - monitoring period cycle
 - requirements of workplace evidence
 - actions taken for unsatisfactory progression
 - role of STA
 - apprentice/learner responsibilities
 - employer responsibilities
- RTO policies, including:
 - apprentice/learner responsibilities
 - teacher/trainer responsibilities
 - absenteeism
 - off-the-job component assessment specifications
 - on-the-job component assessment specifications
 - qualification completion requirements and award
 - advanced standing and/or recognition of prior learning (RPL)
 - result review procedures
- apprentice/learner discipline policy, including:
 - apprentice/learner rights
 - apprentice/learner responsibilities
 - breaches of discipline
 - types of penalties - apprentice/learner responsibilities
- attendance at the Registered Training organisation (RTO), including:
 - importance of attendance
 - record management of attendance

- attendance cards
- advice to employer of absences
- fire and emergencies at the RTO, including:
 - designated fire and emergency exits
 - procedures in the event of a fire
 - evacuation procedures
 - assembly points
 - importance of attendance
- WHS/OHS at the RTO, including:
 - eye protection
 - foot protection
 - protective clothing
 - personal injuries
 - mobile phones and personal belongings
 - dress regulations
 - rotating machinery
 - designated fire and emergency exits
- entry requirements, including:
 - numeracy requirements
 - literacy requirements
 - RTO support mechanisms
- RTO tour, including:
 - RTO layout
 - building layout
 - tour of building and RTO
- RTO responsibility to receive and monitor workplace activities of the apprentice/learner
- industry requirements for monitoring workplace evidence
- acceptable methods for monitoring and reporting workplace activities
- apprentice/learner responsibility to participate in the reporting of workplace activities
- RTO requirements in periodically evaluating development of apprentices/learners from the workplace activities information gathered, and providing feedback and advice on areas requiring improvement
- employer responsibilities to participate in monitoring, reporting and confirming workplace activities, and assisting in overcoming areas requiring development by the apprentice/learner
- options for appeal or assistance from RTO or STA
- methods of monitoring and reporting competency development activities.

Assessment Conditions

Assessors must hold credentials specified within the Standards for Registered Training Organisations current at the time of assessment.

Assessment must satisfy the Principles of Assessment and Rules of Evidence and all regulatory requirements included within the Standards for Registered Training Organisations current at the time of assessment.

Assessment must occur in workplace operational situations where it is appropriate to do so; where this is not appropriate, assessment must occur in simulated workplace operational situations that replicate workplace conditions.

Assessment processes and techniques must be appropriate to the language, literacy and numeracy requirements of the work being performed and the needs of the candidate.

Resources for assessment must include access to:

- a range of relevant exercises, case studies and/or other simulations
- relevant and appropriate materials, tools, equipment and personal protective equipment (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=b8a8f136-5421-4ce1-92e0-2b50341431b6>

UEECD0050 Use and maintain the integrity of a portable gas detection device

Modification History

Release 1. This is the first release of this unit of competency in the UEE Electrotechnology Training Package.

Application

This unit involves the skills and knowledge required to ensure a workplace, including hazardous areas, is safe from dangerous gases and/or vapours by using and maintaining a portable gas detection device.

Portable gas detection devices are used to detect combustible, flammable and toxic gases and/or vapours in a work area. Portable gas detectors transmit warnings via audible and visible signals, such as alarms and flashing lights, when dangerous levels of gas and/or vapours are detected.

Hazardous areas are defined as areas where fire or explosion may occur due to flammable gases, vapours, combustible dusts and/or ignitable fibres are present in the air, in quantities sufficient to produce explosive or ignitable mixtures.

Competency in this unit requires the ability to use measuring instruments such as portable gas detection devices, establish the safety of an area, monitor dangerous gases and/or vapours, follow workplace procedures in maintaining gas detection devices and completing all required documentation. Individuals will typically work, under supervision, as part of a hazardous area maintenance and repair team.

Site-specific work permits maybe required to work in the hazardous environment. In addition, other permits may be required, such as confined space and to operate specific pieces of equipment such as elevated work platforms (EWPs) in various jurisdictions.

Additional and/or other conditions may apply in some jurisdictions subject to regulations related to electrical work. Practice in the workplace and during training is also subject to work health and safety (WHS)/occupational health and safety (OHS) regulations.

Pre-requisite Unit

UEECD0007 Apply work health and safety regulations, codes and practices in the workplace

Competency Field

Cross Discipline

Unit Sector

Electrotechnology

Elements and Performance Criteria

ELEMENTS

Elements describe the essential outcomes.

1 Prepare to use portable gas detection device

PERFORMANCE CRITERIA

Performance criteria describe the performance needed to demonstrate achievement of the element.

- 1.1** WHS/OHS policies and procedures for work in hazardous areas are identified and applied
 - 1.2** Safety processes, relevant permits and material safety data sheet (MSDS)/safety data sheet (SDS) and safe work method statements (SWMS) related to entering a hazardous area are obtained in accordance with workplace procedures and clearance to undertake work is obtained from supervisor
 - 1.3** Emergency and evacuation plans are reviewed prior to entering hazardous area
 - 1.4** Gas and/or vapour is identified in accordance with workplace procedures from plant and/or site records and in consultation with relevant person/s
 - 1.5** Portable gas detection device is checked for calibration and response in accordance with manufacturer instructions and workplace procedures
 - 1.6** Portable gas detection device is checked for damaged casing from use of incorrect batteries and/or chargers and use of incorrect spare parts and accessories which would nullify its Ex rating
-
- 2.1** WHS/OHS policies and procedures relating to gas/vapour detection are followed
 - 2.2** Hazards are monitored and risk controls are implemented in accordance with workplace procedures
 - 2.3** Personal protective equipment (PPE) is worn for work in potentially dangerous atmospheres and/or hazardous areas
 - 2.4** Portable gas detection device is used in accordance with

2 Establish safety of area

- manufacturer instructions and workplace procedures
- 2.5** Environmental impacts of gas and/or vapour readings in hazardous areas are taken into consideration when using a portable gas detection device
- 2.6** Gas detection readings are recorded in accordance with workplace procedures
- 2.7** Safe to work is determined from gas detection reading and then clearance to start or resume work is issued in accordance with workplace procedures
- 3 Provide training in using portable gas detection devices**
- 3.1** Monitoring schedule for detecting dangerous gas and/or vapours in hazardous areas is implemented in accordance with workplace procedures
- 3.2** Training is provided to relevant person/s in the use of portable gas detection devices, as required
- 3.3** Documentation on training provided is maintained in accordance with workplace procedures
- 4 Maintain portable gas detection devices**
- 4.1** Portable gas detection devices are stored and maintained in accordance with workplace procedures and manufacturer recommendations
- 4.2** Gas detection devices are checked and calibrated regularly in accordance with workplace procedures, hazardous area requirements and manufacturer instructions
- 4.3** Calibration records of portable gas detection device are maintained in accordance with the 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 UEE Electrotechnology Training Package Companion Volume Implementation Guide.

Using and maintaining portable gas detecting devices must include:

- at least two of the following classified hazardous areas:
 - confined spaces
 - drains
 - pits
 - excavations

Unit Mapping Information

This unit replaces and is equivalent to UEENEEM076A Use and maintain the integrity of a portable gas detection device.

Links

Companion Volume implementation guides are found in VETNet - -

<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=b8a8f136-5421-4ce1-92e0-2b50341431b6>

Assessment Requirements for UEECD0050 Use and maintain the integrity of a portable gas detection device

Modification History

Release 1. This is the first release of this unit of competency in the UEE Electrotechnology 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 legislation, industry standards, codes of practice and regulations
- applying relevant work health and safety (WHS)/occupational health and safety (OHS) requirements and workplace procedures and practices, including:
 - applying safe work practices
 - determining safety of area
 - identifying and monitoring hazards
 - implementing risk control measures
 - using material data safety sheets (MSDS)/safety data sheets (SDS) and safe work method statements (SWMS)
 - wearing personal protective equipment (PPE)
- following workplace procedures to maintain gas detection devices
- interpreting manufacturer specifications
- meeting workplace compliance requirements
- preparing to use portable gas detection devices
- using and maintaining the integrity of portable gas detection devices, including:
 - determining whether gas/vapour level in a work area is safe from explosive, toxic and oxygen deficiency
 - following work permits and clearance procedures
 - following workplace procedures to maintain integrity of gas detection devices
 - instructing others in use of a portable gas detection devices
 - monitoring hazards and following evacuation procedures
- using portable gas detection devices to monitor gases and/or vapours
- using site-specific documentation, including plans, records and schedules
- utilising relevant equipment and tools.

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:

- actions or conditions that would void hazardous area/equipment protections
- characteristics and liabilities of equipment and tools
- principles of gas detection and the use and care of portable gas detection devices, including:
 - fundamental principles in the use of gas and vapour instruments
 - use of manufacturer instruction manuals (operating instructions, adjustment procedures, operational limitations and storage)
 - calibration and response checking
- detecting gases and vapours, including:
 - apparatus capability and users' knowledge of gases and vapours
 - common properties of gases and vapours, including density of gases, complication of evaporation, condensation and temperature effects of vapours and their mixtures; effect of temperature on density; lower explosive limit (LEL) and upper explosive limit (UEL) of combustibles and toxicity
 - detection and non-detection of gases
 - environmental effects and intended application
 - propagation of gases, including the release of gas and vapours, ventilation, density, temperature and location
 - safety when monitoring for flammable gases where personnel could be present
 - the differences between detecting gases and vapours, including added complication of evaporation, condensation and temperature effects of vapours and their effect on propagation, calibration and detection, including sampling
- oxygen deficiency and effects on safety, including:
 - chemical reaction of oxygen with solid and gaseous products
- dilution of the air by displacement by some other gas or vapour
- measuring principles of catalytic sensors, electrochemical sensors, infrared sensors and semi-conductor sensors, including:
 - common applications, limitations and safety
 - interferences of other gases with the measurement
 - poisoning of the sensor
 - note: detailed information on gas detection is given in AS/NZS 60079.29.2 Explosive atmospheres Gas detectors - Performance requirements of detectors for flammable gases
- limits of gas detection of flammable (combustible) gas equipment, including:
 - limit to which flammable gas detection equipment will only detect gases and vapours that are present in the vicinity of the detector or in the line of sight of open path apparatus
 - limit to which flammable gas equipment will not detect combustible liquids and not detect combustible liquids as such, or combustible mists, dusts or fibres

- limits of vapour detection of flammable (combustible) gas equipment (flammable gas detection equipment will only detect those vapours that do not condense at the temperature of the detector or its sampling equipment)
- interpretation of gas detection instrument readings (behaviour), including:
 - upscale reading in the presence of a gas for which an instrument is not calibrated
 - causes of erratic indications
 - reading of low concentrations of gas of interest
 - off-scale readings
- toxicity level of flammable gases and vapours and their potential for occurring in a given situation
- issues with gas and vapour detection in hazardous areas which may include confined spaces
- manufacturer instruction manuals (operating instructions, adjustment procedures, operational limitations and storage)
- oxygen deficiency and effects on safety, including:
 - chemical reaction of oxygen with solid and gaseous products
 - dilution of the air by displacement by some other gas or vapour
- principles of gas detection and use and care of portable gas detection devices, including:
 - fundamental principles in the use of gas and vapour instruments
 - calibration and response checking
- relevant hazardous area classification principles and techniques, including calibration and response checking
- relevant legislation, industry standards, codes of practice and regulations
- relevant manufacturer specifications
- relevant risk mitigation processes
- relevant WHS/OHS legislated requirements
- relevant workplace documentation
- relevant workplace policies and procedures for testing and inspection of electrical equipment in hazardous atmospheres
- toxicity level of flammable gases and vapours and their potential for occurring in given situations
- environmental conditions that may impact explosion-protection techniques
- flammable material properties and ignition characteristics.
-

Assessment Conditions

Assessors must hold credentials specified within the Standards for Registered Training Organisations current at the time of assessment.

Assessment must satisfy the Principles of Assessment and Rules of Evidence and all regulatory requirements included within the Standards for Registered Training Organisations current at the time of assessment.

Assessment must occur in workplace operational situations where it is appropriate to do so;

where this is not appropriate, assessment must occur in simulated workplace operational situations that replicate workplace conditions.

Assessment processes and techniques must be appropriate to the language, literacy and numeracy requirements of the work being performed and the needs of the candidate.

Resources for assessment must include access to:

- a range of relevant exercises, case studies and/or other simulations
- relevant and appropriate materials, tools, equipment and PPE currently used in industry
- applicable documentation, including workplace procedures, industry standards, equipment specifications, regulations, codes of practice and operation manuals.

Links

Companion Volume implementation guides are found in VETNet - -

<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=b8a8f136-5421-4ce1-92e0-2b50341431b6>

UEECD0051 Use drawings, diagrams, schedules, standards, codes and specifications

Modification History

Release 1. This is the first release of this unit of competency in the UEE Electrotechnology Training Package.

Application

This unit involves the skills and knowledge required to use drawings, diagrams, cable schedules, industry standards, codes of practice and specifications as they apply to various electrotechnology work functions.

It includes interpreting schematic, wiring and mechanical diagrams, equipment and cable/connection schedules and manuals; and the use and format of compliance standards, codes and job specifications used in the electrotechnology industry. It also includes the use of site and architectural drawings/plans to show the location of services, apparatus, plant and machinery.

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

Pre-requisite Unit

UEECD0007 Apply work health and safety regulations, codes and practices in the workplace

Competency Field

Cross Discipline

Unit Sector

Electrotechnology

Elements and Performance Criteria

ELEMENTS

Elements describe the essential outcomes.

1 Prepare to use drawings, diagrams, schedules and manuals

PERFORMANCE CRITERIA

Performance criteria describe the performance needed to demonstrate achievement of the element.

1.1 Hazards are identified, risks are assessed and control measures are implemented

	1.2	Need for drawings, diagrams, schedules or manuals is determined from the nature of work to be undertaken
	1.3	Relevant drawings, diagrams, site plans and cable/connection schedules or manuals required for the work to be undertaken are determined and obtained in accordance with workplace procedures
2 Use drawings, diagrams, schedules and manuals to obtain job information	2.1	Drawings, diagrams and cable/connection schedules are interpreted using drawing layouts, conventions and symbols
	2.2	Dimensions are extracted from drawings and diagrams in accordance with workplace procedures for application to the work to be undertaken
	2.3	Location of equipment is determined from equipment cable/connection schedules and location diagrams
	2.4	Information relating to work to be undertaken is located and interpreted from relevant cable/connection manuals in accordance with workplace procedures
3 Use drawings, diagrams, schedules and manuals to convey information and ideas	3.1	Drawing conventions are applied in neat and legible freehand drawings to convey information and ideas to person/s involved in the work to be undertaken
	3.2	Drawing conventions are used to neatly correct freehand original job drawing to show final 'as-installed' arrangement in accordance with workplace procedures
	3.3	Corrected drawings are forwarded to appropriate person/s in accordance with workplace procedures
4 Comply with industry standards, codes of practice and specifications	4.1	Industry standards and codes of practice that specifically apply to relevant disciplines are obtained in accordance with workplace procedures
	4.2	Format of industry standards and codes of practice that apply to relevant disciplines are reviewed and applied in accordance with workplace procedures
	4.3	Purpose, format and content of job specifications are reviewed and applied

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 UEE Electrotechnology Training Package Companion Volume Implementation Guide.

Using drawings, diagrams, schedules, standards, codes and specifications must include:

- assembly, installation, fault finding, maintenance or development work functions in the electrotechnology industry

Unit Mapping Information

This unit replaces and is equivalent to UEENEEE107A Use drawings, diagrams, schedules, standards, codes and specifications.

Links

Companion Volume implementation guides are found in VETNet - -

<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=b8a8f136-5421-4ce1-92e0-2b50341431b6>

Assessment Requirements for UEECD0051 Use drawings, diagrams, schedules, standards, codes and specifications

Modification History

Release 1. This is the first release of this unit of competency in the UEE Electrotechnology 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 relevant work health and safety (WHS)/occupational health and safety (OHS) requirements, including:
 - identifying hazards
 - implementing and monitoring control measures
- dealing with unplanned events in accordance with workplace procedures
- extracting dimensions from drawings and diagrams
- reading and interpreting drawings, diagrams and plans to determine the location of electrical/communication/audio accessories and appliances
- using drawings, diagrams, cable/connection schedules, industry standards, codes of practice and specifications used in electrotechnology work, including:
 - giving correct information in freehand drawings
 - identifying and selecting drawings, diagrams, site plans, cable/connection schedules and manuals relevant to the work to be undertaken
 - interpreting drawings, diagrams, cable/connection schedules and manuals correctly
 - obtaining compliance standards and codes applicable to particular disciplines
 - reviewing and understanding the format of compliance standards and codes that apply to particular disciplines
 - reviewing the format and content of typical job specifications
 - using correct conventions in freehand drawings
- sketching and marking up basic circuit diagrams
- developing switching charts to identify the terminals of various types of switches
- using drawings, diagrams, schedules and manuals to:
 - connect equipment
 - convey information and ideas
 - obtain job information.

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:

- architectural drawings, including:
 - site plans, floor plans detailed drawings and standard drawings
 - architectural floor plans to determine the power and lighting or communications/audio/video layouts required in a domestic installation
 - site plans to locate the service point, consumer mains, communication services, main switchboard, distribution boards and/or builders supplies
 - standard drawing scales to determine the actual lengths represented by dimensions on an architectural drawing
 - Australian standard symbols used on floor plans to show the location of the accessories and appliances as detailed in an electrical schedule
- building construction drawings and diagrams, including:
 - building types: timber frame, brick veneer, double brick and metal frame
 - identification of different types of footings, floors, external walls, roofs and interior walls
 - typical cable routes through buildings, structures and premises
 - sequence of each constructional stage for brick, brick veneer and timber cottages
 - identification of the stages at which the electrical/communications - first and second fixing occurs in the constructional sequence
 - areas of cooperation between electrical/communications and other building trades
- circuit diagrams, including:
 - purpose of circuit diagrams in the electrotechnology industry
 - conventions used in and the features of circuit diagrams
 - common symbols used in circuit diagram
- electrical drawings, including:
 - types of electrical drawings: block, circuit, wiring and ladder diagrams
 - purpose and application of block, circuit, wiring diagrams and ladder diagrams
 - Australian standard symbols used to represent components on electrical diagrams
 - converting a circuit diagram to a wiring diagram
 - identification of cable type, origin and route from a cable schedule
 - developing a cable schedule for a given installation
- purpose, format and content of typical job specifications, including common templates on which job specifications are written
- regulations for undertaking electrical work, including legislative requirements for ensuring electrical or electronic equipment is safe i.e. compliance requirements of electrical installations
- scope of work covered by licensing in the electrotechnology industry (electrical licensing)
 - legislative requirements for ensuring electrical or electronic equipment is safe, including compliance requirements of electrical installations

- relevant WHS/OHS legislated requirements
- relevant workplace policies and procedures include risk mitigation process
- standards philosophy and format, including:
 - performance verses prescriptive requirements
 - purpose of technical standards and their development
 - role of Standards Australia/New Zealand, International Organisation for Standardisation (ISO) and the International Electrotechnical Commission (IEC)
 - how standards are used in compulsory and accreditation compliance schemes
 - arrangement and use of technical standards in relation to electrical and electronic work
 - how to read and apply a standard
 - standards and codes that apply to all types of electrical installations
 - standards mandated under regulation (e.g. Wiring Rules) or by an authority, deemed-to-comply standard and local service requirements (e.g. service rules)
 - codes applicable to electrical safe working practices and some aspects of the Building Code of Australia (BCA)
- wiring diagrams, including:
 - purpose of wiring diagrams in the electrotechnology industry
 - conventions used in and the features of wiring diagrams
 - common symbols used in wiring diagrams.

Assessment Conditions

Assessors must hold credentials specified within the Standards for Registered Training Organisations current at the time of assessment.

Assessment must satisfy the Principles of Assessment and Rules of Evidence and all regulatory requirements included within the Standards for Registered Training Organisations current at the time of assessment.

Assessment must occur in workplace operational situations where it is appropriate to do so; where this is not appropriate, assessment must occur in simulated workplace operational situations that replicate workplace conditions.

Assessment processes and techniques must be appropriate to the language, literacy and numeracy requirements of the work being performed and the needs of the candidate.

Resources for assessment must include access to:

- a range of relevant exercises, case studies and/or other simulations
- relevant and appropriate materials, tools, equipment and personal protective equipment (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=b8a8f136-5421-4ce1-92e0-2b50341431b6>

UEECO0002 Maintain documentation

Modification History

Release 1. This is the first release of this unit of competency in the UEE Electrotechnology Training Package.

Application

This unit involves the skills and knowledge required to maintain and prepare documentation required to record work activities, purchases and expenses obligations.

It includes planning and maintaining documentation typically required in an electrotechnology workplace information system.

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

Pre-requisite Unit

Not applicable

Competency Field

Commercial

Unit Sector

Electrotechnology

Elements and Performance Criteria

ELEMENTS

Elements describe the essential outcomes.

1 Prepare to maintain documentation

PERFORMANCE CRITERIA

Performance criteria describe the performance needed to demonstrate achievement of the element.

- 1.1** Documentation requirements and record management methods are identified, obtained and applied in accordance with workplace procedures
- 1.2** Advice is sought from supervisor, as required, to ensure work activity is correctly documented and coordinated with other person/s

	1.3	Forms required to document work activity are obtained in accordance with workplace procedures
	1.4	Work health and safety (WHS)/occupational health and safety (OHS), risk assessment and control measures are documented in accordance with workplace procedures
2 Maintain documents	2.1	Work activities are documented, at the appropriate time and in accordance with workplace procedures
	2.2	Documents are checked for accuracy, clarity and anomalies corrected
	2.3	Appropriate information technology is used to maintain workplace documentation
	2.4	Signatures are obtained by relevant person/s, as required
	2.5	Copies of required documents are forwarded to appropriate person/s in accordance with workplace procedures
	2.6	Unplanned events are referred to supervisor for direction in accordance with workplace procedures.

Foundation Skills

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

Range of Conditions

Range is restricted to essential operating conditions and any other variables essential to the work environment.

Non-essential conditions may be found in the UEE Electrotechnology Training Package Companion Volume Implementation Guide.

Unit must be demonstrated by:

- maintaining documentation in an electrotechnology organisation information system

Unit Mapping Information

This unit replaces and is equivalent to UEENEEC001B Maintain documentation.

Links

Companion Volume implementation guides are found in VETNet - -

<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=b8a8f136-5421-4ce1-92e0-2b50341431b6>

Assessment Requirements for UEECO0002 Maintain documentation

Modification History

Release 1. This is the first release of this unit of competency in the UEE Electrotechnology 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 and include:

- applying relevant work health and safety (WHS)/occupational health and safety (OHS) requirements, including implementing risk control measures
- dealing with unplanned events in accordance with workplace documentation
- recording and maintaining workplace records using appropriate technology in accordance with workplace information methods
- following workplace record management procedures
- maintaining documentation
- planning documentation.

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:

- computers and applications, including:
 - entering information
 - printing
 - saving
 - selecting application
 - starting up
- relevant risk mitigation processes, including risk control measures
- relevant WHS/OHS legislated work records requirements
- relevant workplace communication methods, including:
 - communicating with customers
 - communicating with personnel
 - communicating with suppliers
 - oral and written communication
- relevant workplace documentation and work activities records, including:

- methods for recording and maintaining work records
- purpose and extent of work activities records
- regulatory work record requirements
- types of records for maintaining work activities
- relevant workplace record management policies and procedures.

Assessment Conditions

Assessors must hold credentials specified within the Standards for Registered Training Organisations current at the time of assessment.

Assessment must satisfy the Principles of Assessment and Rules of Evidence and all regulatory requirements included within the Standards for Registered Training Organisations current at the time of assessment.

Assessment must occur in workplace operational situations where it is appropriate to do so; where this is not appropriate, assessment must occur in simulated workplace operational situations that replicate workplace conditions.

Assessment processes and techniques must be appropriate to the language, literacy and numeracy requirements of the work being performed and the needs of the candidate.

Resources for assessment must include access to:

- a range of relevant exercises, case studies and/or other simulations
- relevant and appropriate materials, tools, equipment and personal protective equipment (PPE) currently used in industry
- applicable documentation, including workplace procedures, industry standards, equipment specifications, regulations, codes of practice and operation manuals.

Links

Companion Volume implementation guides are found in VETNet - -

<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=b8a8f136-5421-4ce1-92e0-2b50341431b6>

UEGNSG004 Locate, prove and protect utility assets

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 locate, prove and protect utility assets.

It includes preparing, locating, proving and low level, short-term protection of assets on work sites where utility industry operations occur.

Persons undertaking this unit would not supervise third party work near a utility asset.

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

Pre-requisite Unit

Not applicable.

Competency Field

Independent Units

Unit Sector

Gas Industry

Elements and Performance Criteria

ELEMENTS

Elements describe the essential outcomes.

1 Prepare to locate, prove and protect utility assets

PERFORMANCE CRITERIA

Performance criteria describe the performance needed to demonstrate achievement of the element.

- 1.1** Job requirements and workplace procedures for the site are obtained and 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 policies and procedures, relevant clearances and no-go

zones are obtained and applied in accordance with workplace procedures

- 1.3** Hazards are identified, risks are assessed and control measures are prioritised, implemented and monitored
- 1.4** Level of responsibility under the relevant work permit and/or notification is obtained and confirmed with relevant person/s in accordance with job requirements and workplace procedures
- 1.5** Relevant person/s, authorities and/or enterprises are consulted to ensure the work is coordinated effectively with others involved
- 1.6** Tools, equipment and personal protective equipment (PPE) required to carry out the work are identified, obtained and checked for correct operation and safety in accordance with workplace procedures
- 1.7** Materials, plans, diagrams, drawings and resources required for the work are obtained in accordance with workplace procedures
- 1.8** Site preparation, safety plan and work schedule are confirmed in accordance with workplace procedures

2 Locate, prove and protect utility assets

- 2.1** WHS/OHS risk control measures, schedule of work and workplace procedures for carrying out work are followed
- 2.2** Materials, tools and equipment required for the work are selected and used correctly and safely in accordance with manufacturer instructions and workplace procedures
- 2.3** Utility asset is located and clearly marked using selected equipment and tools in accordance with workplace procedures
- 2.4** Location of the asset proven using approved methods where permitted in accordance with workplace procedures
- 2.5** Utility asset is protected physically to ensure it is safe and secure in accordance with workplace procedures
- 2.6** Work is carried out to the required quality standard without waste of materials or damage to apparatus, equipment, the surrounding environment or services and

		using sustainable energy principles
	2.7	Unplanned events are referred to immediate supervisor for directions in accordance with workplace procedures
3 Complete work and relevant documentation	3.1	WHS/OHS risk control measures for work completion are followed
	3.2	Work site is tidied and made safe, or handed over to relevant person/s for further work in accordance with workplace procedures
	3.3	Tools, equipment and any surplus resources/materials are cleaned, checked and securely stored in accordance with workplace procedures
	3.4	Relevant person/s are notified of work completion in accordance with workplace procedures
	3.5	Work completion documentation is completed accurately and provided to relevant person/s in accordance with workplace procedures

Foundation Skills

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

Range of Conditions

Range is restricted to essential operating conditions and any other variables essential to the work environment.

Non-essential conditions may be found in the UEG Gas Industry Training Package Companion Volume Implementation Guide.

Unit Mapping Information

This unit replaces and is equivalent to UEGNSG004A Locate, prove and protect utility assets.

Links

Companion Volume Implementation Guides are found in VETNet -
<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=6a6c032e-ffcb-4f3d-8063-415efbd261e8>

Assessment Requirements for UEGNSG004 Locate, prove and protect utility assets

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 and performance criteria on at least two separate occasions and include:

- advising stakeholders of upcoming work
- applying relevant work health and safety (WHS)/occupational health and safety (OHS) requirements
- applying sustainable energy and environmental principles and practices
- checking tools and equipment
- completing workplace documentation
- consulting relevant person/s, authorities and/or enterprises to coordinate work
- dealing with unplanned events/situations in accordance with workplace procedures, in a manner that minimises risk to personnel and equipment
- identifying utilities and services visually
- locating and marking utility and asset services
- maintaining a clean work site and handing over to relevant person/s
- obtaining and applying relevant clearances/no-go zones
- obtaining and interpreting alignment sheets, maps/plans, technical drawings, diagrams and symbols
- obtaining and interpreting job requirements and work instructions
- protecting assets
- proving location of asset
- selecting and operating relevant tools and equipment including:
- visually inspecting asset.

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:

- clearances and no-go zones requirements
- environmental and sustainable energy principles and practices
- protection of assets, including:

- communication with relevant personnel
- installation of protection systems (barricades and signage)
- marking of assets
- prove assets, including hand excavation techniques
- relevant authorities or enterprises to contact regarding the location of other utilities services
- relevant legislations, regulations, standards and codes of practice
- relevant manufacturers' instructions
- relevant materials, plans, drawings, diagrams and resources
- relevant person/s to consult with to coordinate and finalise work
- relevant safe work method statements (SWMS)/job safety assessments or risk mitigation processes
- relevant safety and environmental hazards and mitigation measures
- relevant WHS/OHS legislated requirements
- relevant workplace documentation
- relevant workplace policies and procedures
- techniques to minimise waste
- types of electronic and manual service locators
- utility assets, services, conduits and cables.

Assessment Conditions

As a minimum, assessors must satisfy applicable regulatory requirements, which include requirements in the Standards for Registered Training Organisations current at the time of assessment.

As a minimum, assessment must satisfy applicable regulatory requirements, which include requirements in the Standards for Registered Training Organisations current at the time of assessment.

Assessment must occur in workplace operational situations where it is appropriate to do so; where this is not appropriate, assessment must occur in simulated workplace operational situations that replicate workplace conditions.

Assessment processes and techniques must be appropriate to the language, literacy and numeracy requirements of the work being performed and the needs of the candidate.

Resources for assessment must include access to:

- a range of relevant exercises, case studies and/or other simulations
- relevant and appropriate materials, tools, equipment and personal protective equipment (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>

UEGNSG005 Prepare to work in the gas industry

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 prepare to work in the gas industry.

It includes an overview of the gas industry, types of gases, relevant mandatory safety regulations and workplace policies, procedures and work practices required for working in the Australian gas industry.

This unit is intended for new entrants in the gas industry.

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

Pre-requisite Unit

Not applicable.

Competency Field

Independent Units

Unit Sector

Gas Industry

Elements and Performance Criteria

ELEMENTS

Elements describe the essential outcomes.

1 Prepare for working in the gas industry

PERFORMANCE CRITERIA

Performance criteria describe the performance needed to demonstrate achievement of the element.

- 1.1** Relevant regulations, codes and practices are identified and applied
- 1.2** Work health and safety (WHS)/occupational health and safety (OHS) workplace policies and procedures are identified and obtained

	1.3	Relevant person/s are consulted to ensure the work is coordinated effectively with other person/s involved
	1.4	Resources and materials required for the work are confirmed and obtained in accordance with workplace procedures
	1.5	Schedule for the work is confirmed in accordance with work instructions and job requirements
2 Determine requirements for working in the gas industry	2.1	WHS/OHS workplace policies, procedures and safe work practices are followed to eliminate or minimise incidents in accordance with workplace procedures
	2.2	Work schedule for gas related activity is followed to ensure work is completed in agreed time, to a quality standard and with a minimum of waste
	2.3	Unplanned events or conditions are referred to relevant person/s for further instructions in accordance with workplace procedures
	2.4	Quality checks of gas related activity work are undertaken in accordance with job instructions and work requirements
3 Complete work and relevant documentation	3.1	Final checks are made to ensure gas related work conforms with job instructions and work requirements
	3.2	Relevant person/s are notified of work completion in accordance with workplace procedures
	3.3	Work area is cleaned, made safe and sustainable energy practices are followed
	3.4	Relevant documentation is completed, in accordance with 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 Volume Implementation Guide.

Unit Mapping Information

This unit replaces and is equivalent to UEGNSG005A Prepare to work in the gas industry.

Links

Companion Volume Implementation Guides are found in VETNet -
<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=6a6c032e-ffcb-4f3d-8063-415efbd261e8>

Assessment Requirements for UEGNSG005 Prepare to work in the gas industry

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 and performance criteria on at least two separate occasions and include:

- applying relevant industry standards, guidelines, codes of practice and regulations
- applying relevant work health and safety (WHS)/occupational health and safety (OHS) requirements, including applying risk control and safe work methods
- applying sustainable energy principles and practices
- communicating effectively with relevant person/s
- completing relevant workplace documentation
- confirming and following schedule of work and job requirements
- consulting relevant person/s to coordinate work
- dealing with unplanned events/situations in accordance with workplace procedures, in a manner that minimises risk to personnel and equipment
- following gas related activity workplace procedures and instructions
- maintaining a clean work area
- obtaining relevant resources and materials to conduct the work
- performing quality checks
- working within agreed timeframes or conditions.

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/protocols for dealing with unplanned events
- relevant gas industry licensing/regulatory requirements
- relevant industry risk mitigation processes, including risk control and safe work methods
- relevant industry standards, guidelines, codes of practice and regulations
- relevant WHS/OHS legislated requirements
- relevant workplace documentation
- relevant workplace policies, procedures and instructions
- requirements to enter the work area

- statutory authorities and regulatory bodies that operate in the gas industry
- sustainable energy principles and practices includes techniques to minimise waste.

Assessment Conditions

As a minimum, assessors must satisfy applicable regulatory requirements, which include requirements in the Standards for Registered Training Organisations current at the time of assessment.

As a minimum, assessment must satisfy applicable regulatory requirements, which include requirements in the Standards for Registered Training Organisations current at the time of assessment.

Assessment must occur in workplace operational situations where it is appropriate to do so; where this is not appropriate, assessment must occur in simulated workplace operational situations that replicate workplace conditions.

Assessment processes and techniques must be appropriate to the language, literacy and numeracy requirements of the work being performed and the needs of the candidate.

Resources for assessment must include access to:

- a range of relevant exercises, case studies and/or other simulations
- relevant and appropriate materials, tools, equipment and personal protective equipment (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>

UEGNSG006 Use a portable gas detector to locate escape

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 use a portable gas detector to locate gas escape.

It includes ensuring workplace is safe from explosive, toxic gases and vapours by using portable gas detection devices in locating and pin-pointing gas escapes and completing relevant documentation in accordance with relevant legislative, industry standards and code of practice requirements.

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

Pre-requisite Unit

Not applicable.

Competency Field

Support Services

Unit Sector

Gas Industry

Elements and Performance Criteria

ELEMENTS

Elements describe the essential outcomes.

1 Prepare to use portable gas detection device

PERFORMANCE CRITERIA

Performance criteria describe the performance needed to demonstrate achievement of the element.

- 1.1** Work health and safety (WHS)/occupational health and safety (OHS) workplace procedures for gas/vapour detection are identified and applied
- 1.2** Gas or vapour to be detected is determined from workplace documentation and/or in consultation with

relevant person/s

	1.3	Gas detection devices are checked for calibration and response in accordance with manufacturer instructions and workplace procedures
	1.4	Personal protective equipment (PPE) is obtained and checked for correct operation and safety in accordance with workplace procedures
2 Use gas detectors and pin-point gas escapes	2.1	WHS/OHS policies and procedures relating to gas/vapour detection are followed
	2.2	Gas detection device is used in accordance with manufacturer instructions, workplace procedures and environmental conditions
	2.3	Gas detection readings are recorded in accordance with workplace procedures
	2.4	Gas properties and environmental conditions are considered and monitored when determining probable areas that gases could accumulate
	2.5	Gas detector readings are interpreted correctly and converted to relevant percentage in accordance with regulations and workplace procedures
	2.6	Gas escapes are located and pin-pointed in accordance with workplace procedures
	2.7	Required actions are determined and communicated to relevant person/s in accordance with workplace procedures
3 Complete the use of gas detector equipment and complete relevant documentation	3.1	Gas detection devices are purged, disassembled and stored in accordance with manufacturer instructions and workplace procedures
	3.2	Storage, use and calibration records of the gas detection device are maintained in accordance with workplace procedures
	3.3	Relevant person/s are notified of work completion in accordance with workplace procedures
	3.4	Reports and documentation are completed accurately and readings recorded and maintained in accordance

with workplace procedures

Foundation Skills

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

Range of Conditions

Range is restricted to essential operating conditions and any other variables essential to the work environment.

Non-essential conditions may be found in the UEG Gas Industry Training Package Companion Volume Implementation Guide.

Unit Mapping Information

This unit replaces and is equivalent to UEGNSG006A Use a portable gas detector to locate escape.

Links

Companion Volume Implementation Guides are found in VETNet -
<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=6a6c032e-ffcb-4f3d-8063-415efbd261e8>

Assessment Requirements for UEGNSG006 Use a portable gas detector to locate escape

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 and performance criteria on at least two separate occasions and include:

- applying relevant work health and safety (WHS)/occupational health and safety (OHS) requirements, including using risk control measures
- applying sustainable energy principles and practices
- communicating effectively with relevant stakeholders
- completing workplace documentation
- determining if the gas/vapour level in a work area is safe from explosive, toxic and oxygen deficiency aspects based on gas properties and environmental conditions
- interpreting and converting readings and indications, including:
 - identifying highest reading locations
 - locating and pin-pointing gas escapes
 - recording gas detection readings
 - verifying actual escape location
- interpreting maps and asset records
- monitoring gases and workplace hazards
- pin-pointing gas escapes
- reading, interpreting and converting gas readings and indications, including:
 - identifying highest reading locations
 - locating and pin-point gas escapes
 - verifying actual escape location
- using environmental indicators to assist in gas detection
- using personal protective equipment (PPE) required for conditions
- using portable gas detection devices, including:
 - device maintenance
 - ensuring device/equipment calibration and keeping records
 - start up and shutdown procedures
 - storage 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:

- factors affecting the frequency of monitoring
- gas and vapour properties
- hazards, risk assessments and control measures
- nature of gas/vapour and the effect of environmental and local conditions
- portable gas detection devices, including:
 - purpose, types and applications
 - start up and shutdown procedures
 - use of gas detection equipment
 - calibration requirements and methods
 - storage requirements
- probable areas that gases could accumulate
- relevant legislations, regulations, industry standards and codes of practices
- relevant manufacturer instructions
- relevant PPE
- relevant safe work method statements (SWMS)/job safety assessments or risk mitigation processes
- relevant WHS/OHS legislated requirements
- relevant workplace documentation
- relevant workplace policies and procedures
- signs, symbols, terminology and legends used
- techniques to locate and pin-point gas escapes.

Assessment Conditions

As a minimum, assessors must satisfy applicable regulatory requirements, which include requirements in the Standards for Registered Training Organisations current at the time of assessment.

As a minimum, assessment must satisfy applicable regulatory requirements, which include requirements in the Standards for Registered Training Organisations current at the time of assessment.

Assessment must occur in workplace operational situations where it is appropriate to do so; where this is not appropriate, assessment must occur in simulated workplace operational situations that replicate workplace conditions.

Assessment processes and techniques must be appropriate to the language, literacy and numeracy requirements of the work being performed and the needs of the candidate.

Resources for assessment must include access to:

- a range of relevant exercises, case studies and/or 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>

UEGNSG106 Coordinate repair of pipeline, facilities and equipment

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 coordinate the repair of gas pipeline, facilities and equipment.

It includes coordinating repair of gas pipeline, facilities and equipment. It also includes coordinating recommissioning of systems, equipment and completing the required documentation, reports and record keeping.

Persons undertaking this unit would work as a supervisor or in a planning role to coordinate gas pipeline repair and work independently performing specific tasks in a range of contexts that could be unpredictable.

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

Pre-requisite Unit

Not applicable.

Competency Field

Cross Discipline Units

Unit Sector

Gas Industry

Elements and Performance Criteria

ELEMENTS

Elements describe the essential outcomes.

1 Prepare for the coordination of pipeline,

PERFORMANCE CRITERIA

Performance criteria describe the performance needed to demonstrate achievement of the element.

1.1 Work schedule, drawings, plans and material lists are obtained, analysed and confirmed, as required, by site

facilities and equipment repairs

inspection in accordance with workplace procedures

- 1.2** Job requirements and workplace procedures for the work are obtained for all work sites and communicated to relevant person/s in accordance with workplace procedures
- 1.3** Work health and safety (WHS)/occupational health and safety (OHS), environmental and sustainable energy workplace policies and procedures related to the work are obtained, applied and communicated with relevant person/s
- 1.4** Work is prioritised and sequenced for completion within acceptable timeframes following consultation with relevant person/s
- 1.5** Hazards are identified, WHS/OHS risks are assessed and control measures prioritised, implemented and monitored in accordance with workplace procedures
- 1.6** Relevant work permit/s is obtained to access and perform the repair work in accordance with regulatory and job requirements and workplace procedures
- 1.7** Person/s, equipment, tools and personal protective equipment (PPE) required for the job are identified, scheduled, obtained and checked for correct operation and safety in accordance with workplace procedures
- 1.8** Relevant person/s at work site are confirmed to be current in first aid and other related work procedures in accordance with requirements
- 1.9** Communication issues with relevant stakeholders are resolved and work coordinated in accordance with work schedule and workplace procedures
- 1.10** Site is prepared to minimise risk and damage to property, commerce and individuals in accordance with the work schedule and workplace procedures
- 1.11** Person/s participating in the work are briefed and responsibilities coordinated and confirmed in accordance with job requirements and workplace procedures
- 1.12** Road signs, barriers and warning devices are positioned in accordance with job requirements, workplace

- procedures and traffic management plan
- 2 Coordinate repair of gas pipeline, facilities and equipment**
- 2.1** WHS/OHS workplace policies, procedures and safe work practices are followed to eliminate or minimise incidents and hazards
- 2.2** Hazardous activities are conducted safely and currency confirmed in accordance with regulatory requirements and workplace procedures
- 2.3** Repair of pipeline, facilities and equipment is coordinated to agreed work schedule and to required industry standards with a minimum of waste in accordance with job requirements and workplace procedures
- 2.4** Environmental hazards, risks and control measures are monitored and preventative action taken and referred to appropriate authorities in accordance with regulatory requirements and workplace procedures
- 2.5** Unplanned events encountered when coordinating the repair of pipeline, facilities and equipment are identified and actioned in accordance with workplace procedures
- 2.6** Fault finding and troubleshooting techniques are applied to identify repairs or maintenance required in accordance with job requirements and workplace procedures
- 2.7** Quality and safety checks of the work are undertaken in accordance with industry standards and workplace procedures
- 3 Coordinate recommission systems and equipment and complete relevant documentation**
- 3.1** Repaired/installed equipment is brought back on line at the desired operational parameters and work undertaken is checked against work schedule for conformance in accordance with workplace procedures
- 3.2** Accidents and injuries are reported, as required, in accordance with workplace procedures
- 3.3** Work site is rehabilitated, cleaned up and made safe in accordance with 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 work permit/s are signed off and facilities/equipment returned to service in accordance with job requirements and workplace procedures
- 3.6 Work completion records, reports and documentation is completed, processed and appropriate person/s notified in accordance with workplace procedures

Foundation Skills

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

Range of Conditions

Range is restricted to essential operating conditions and any other variables essential to the work environment.

Non-essential conditions may be found in the UEG Gas Training Industry Package Companion Volume Implementation Guide.

pipeline, facilities and equipment, including at least 3 of the following:

- excavation
- trenching
- shoring
- stitch bore
- horizontal drilling
- directional drilling

competency must be demonstrated in relation to coordinating the repair of pipeline, facilities and equipment, including at least 3 of the following:

- nylon (polymide) pipeline laying techniques
- nylon gluing
- nylon stop off
- horizontal drilling
- directional drilling

competency must be demonstrated in relation to coordinating the repair of pipeline, facilities and equipment, including at least 5 of the following:

- polyethylene (PE) pipeline laying techniques
- large diameter PE
- PE electro fusion
- PE butt fusion
- saddle fusion
- socket fusion
- PE stop off
- compression couplings or flanges
- connection of PE to nylon
- practical application of installation and maintenance of plastic pipe systems

competency must be demonstrated in relation to coordinating the repair of pipeline, facilities and equipment, including at least 4 of the following:

- unplasticised polyvinyl chloride (uPVC) pipeline laying techniques
- uPVC solvent cemented joints
- uPVC moulded joints
- uPVC stop off
- uPVC couplings or flanges
- connection of uPVC to steel
- practical application of installation and maintenance of plastic pipe systems

competency must be demonstrated in relation to coordinating the repair of pipeline, facilities and equipment, including at least 2 of the following:

- steel pipeline coating repair
- steel pipeline coating testing (jeeper)
- steel, field joint coating

competency must be demonstrated in relation to coordinating the repair of pipeline, facilities and equipment, including at least 3 of the following:

- connection of PE to steel mains
- steel mains welding
- steel mains repair
- sleeve application
- clamp application
- hot tap and stopple

competency must be demonstrated in relation to coordinating the repair of pipeline, facilities and equipment, including at least 2 of the following:

- high pressure stop off
- bagtube
- squash off jacks
- squash off pliers

Unit Mapping Information

This unit replaces and is equivalent to UEGNSG106B Coordinate repair of pipeline, facilities and equipment.

Links

Companion Volume Implementation Guides are found in VETNet -
<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=6a6c032e-ffcb-4f3d-8063-415efbd261e8>

Assessment Requirements for UEGNSG106 Coordinate repair of pipeline, facilities and equipment

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 relevant work health and safety (WHS)/occupational health and safety (OHS) requirements, including:
 - ensuring emergency response workplace procedures are in place
 - hazard identification and reporting
 - implementing risk control measures
 - working safely with hazardous materials and equipment
- applying problem-solving techniques
- applying relevant industry standards, guidelines, codes of practice and regulations
- applying sustainable energy and environmental principles and practices
- communicating schedules to coordinate to person/s
- communicating with other authorities and relevant stakeholders
- completing work and relevant documentation
- coordinating pipeline, facilities and equipment repairs
- dealing with unplanned events in accordance with workplace procedures
- following relevant workplace procedures
- interpreting technical drawings, plans and materials lists
- obtaining relevant resources, tools, equipment and materials
- obtaining relevant work permits
- positioning road signs, barriers and warning devices
- preparing for the coordination of pipeline, facilities and equipment repairs
- recommissioning gas pipeline systems and equipment.

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:

- communication techniques
- coordination of repair of pipeline, facilities and equipment requirements
- documentation requirements to reflect the repair work carried out
- persons, equipment and process required for the repair work
- progress of repair work, including evaluating required amendments or modifications
- recommission gas pipeline systems and equipment, including quality and safety checks
- relevant industry standards, guidelines, codes of practice and regulations
- relevant manufacturer specifications
- relevant safe work method statements (SWMS)/job safety assessments or risk mitigation processes
- relevant stakeholders, including authorised persons, authorities, clients and land owners
- relevant technical drawings, plans or specifications
- relevant WHS/OHS legislated requirements, including:
 - hazards, risk assessment and control measures
 - environmental and sustainable energy principles and practices
- relevant workplace documentation
- relevant workplace policies and procedures
- required work permits, including cancel/sign-off of relevant work permits
- restoration of site in compliance with WHS/OHS and environmental legislative and operational requirements
- road signs, barriers and warning devices
- techniques to secure work area and equipment prior to repair
- traffic management plans
- types of problems and faults that may require repair
- verification that facilities/equipment are safe for repair work to commence.

Assessment Conditions

As a minimum, assessors must satisfy applicable regulatory requirements, which include requirements in the Standards for Registered Training Organisations current at the time of assessment.

As a minimum, assessment must satisfy applicable regulatory requirements, which include requirements in the Standards for Registered Training Organisations current at the time of assessment.

Assessment must occur in workplace operational situations where it is appropriate to do so; where this is not appropriate, assessment must occur in simulated workplace operational situations that replicate workplace conditions.

Assessment processes and techniques must be appropriate to the language, literacy and numeracy requirements of the work being performed and the needs of the candidate.

Resources for assessment must include access to:

- a range of relevant exercises, case studies and/or other simulations
- relevant and appropriate materials, tools, equipment and personal protective equipment (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>

UEGNSG108 Operate and monitor pipeline control systems

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 operate and monitor pipeline system.

It includes monitoring, operating and identifying faults on pipeline control system, compression systems, prime movers, instrument and control systems and valve systems, selecting and using relevant tools, equipment and testing devices to complete work and relevant documentation.

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

Pre-requisite Unit

Not applicable.

Competency Field

Cross Discipline Units

Unit Sector

Gas Industry

Elements and Performance Criteria

ELEMENTS

Elements describe the essential outcomes.

1 Plan to operate and monitor pipeline control system

PERFORMANCE CRITERIA

Performance criteria describe the performance needed to demonstrate achievement of the element.

- 1.1** Work schedule, drawings, plans, job requirements, and material lists are obtained, analysed and confirmed by site inspection, as required, and work planned and coordinated in accordance with workplace and environmental procedures
- 1.2** Work is prioritised and sequenced for completion within acceptable timeframes following consultation with

relevant person/s in accordance with workplace procedures

- 1.3** Hazards are identified, work health and safety (WHS)/occupational health and safety (OHS) risks are assessed and control measures prioritised, implemented and monitored in accordance with workplace procedures
- 1.4** Job requirements and workplace procedures for the work are obtained for work sites and communicated to relevant person/s in accordance with workplace procedures
- 1.5** WHS/OHS, environmental and sustainable energy policies and procedures related to the work are identified, obtained and applied to ensure safe systems of work are followed
- 1.6** Relevant work permit/s are obtained to coordinate and perform the work in accordance with regulatory and job requirements and workplace procedures
- 1.7** Person/s, equipment, tools and personal protective equipment (PPE) required for the job are identified, scheduled, obtained and checked for correct operation and safety in accordance with workplace procedures
- 1.8** Clients are provided with possible solutions and options within the scope, acceptable cost and job requirements parameters
- 1.9** Communication issues with relevant stakeholders are resolved and work coordinated in accordance with work schedule and workplace procedures
- 1.10** Person/s participating in work are briefed and responsibilities coordinated and authorised as required in accordance with workplace procedures
- 1.11** System status is confirmed through communication with pipeline control centre in accordance with workplace procedures

2 Operate and monitor pipeline control system

- 2.1** WHS/OHS risk control measures and environmental procedures are followed in accordance with workplace procedures
- 2.2** Hazardous activities are conducted safely in accordance with regulatory requirements and workplace procedures

- 2.3 Equipment and systems are inspected, tested and faults identified in accordance with work schedule, job requirements and workplace procedures
 - 2.4 Hazard warnings and safety signs are recognised, hazards and WHS/OHS risks assessed and reported to authorised person/s for directions in accordance with workplace procedures
 - 2.5 Operating conditions and performance of equipment and systems are monitored through checking gauge levels, temperatures and flow indicators in accordance with manufacturer instructions and workplace procedures
 - 2.6 Pipeline equipment and system performance information is monitored and reported to relevant person/s to ensure safe and efficient operation of the pipeline system in accordance with workplace procedures
 - 2.7 Fault finding and troubleshooting techniques are applied to identify repairs or maintenance required in accordance with job requirements and workplace procedures
 - 2.8 Work is coordinated to ensure completion in agreed timeframe and to industry standards with a minimum of waste in accordance with job requirements and workplace procedures
 - 2.9 Unplanned situations are responded to in accordance with workplace procedures, in a manner that minimises risk to personnel and equipment
 - 2.10 Quality and safety checks of work are conducted in accordance with job requirements, workplace procedures and industry standards
- 3 Complete work and relevant documentation**
- 3.1 Work undertaken is checked against work schedule for conformance and anomalies and proposed solutions reported to relevant person/s in accordance with workplace and environmental procedures
 - 3.2 Accidents and injuries are reported and followed up as required in accordance with workplace procedures
 - 3.3 Work site is rehabilitated, cleaned up and confirmed safe in accordance with 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 work permit/s is signed off in accordance with job requirements and workplace procedures
- 3.6 Work completion records, reports, documentation and as installed/modified drawing/s are completed, processed and the appropriate person/s notified in accordance with workplace procedures

Foundation Skills

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

Range of Conditions

Range is restricted to essential operating conditions and any other variables essential to the work environment.

Non-essential conditions may be found in the UEG Gas Industry Training Package Companion Volume Implementation Guide.

Unit Mapping Information

This unit replaces and is equivalent to UEGNSG108B Operate and monitor pipeline control systems.

Links

Companion Volume Implementation Guides are found in VETNet - <https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=6a6c032e-ffcb-4f3d-8063-415efbd261e8>

Assessment Requirements for UEGNSG108 Operate and monitor pipeline control systems

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 and performance criteria on at least two separate occasions and include:

- applying relevant industry standards, guidelines, codes of practice and regulations
- applying relevant work health and safety (WHS)/occupational health and safety (OHS) requirements, including:
 - ensuring emergency response procedures are in place
 - identifying and reporting hazards
 - implementing risk control measures
 - selecting and using correct personal protective equipment (PPE)
- applying sustainable energy and environmental principles and practices
- communicating with relevant authorities and stakeholders
- completing work and relevant documentation
- conducting quality and safety checks
- dealing with unplanned events/situations in accordance with workplace procedures, in a manner that minimises risk to personnel and equipment
- following workplace procedures
- interpreting technical drawings, plans and materials lists
- monitoring pipeline and system performance
- obtaining relevant work permits
- operating and monitoring the controls system
- rehabilitating and maintaining a clean work site.

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:

- communication techniques
- gas industry products, processes and characteristics
- hazardous activities, including lifting, climbing, working in confined spaces or aloft and using power tools

- inspecting and testing procedures
- operating conditions and performance of equipment and systems
- pipeline systems operating parameters
- problem-solving techniques
- quality and safety checks
- relevant industry standards, guidelines, codes of practice and regulations
- relevant manufacturer specifications
- relevant plant, equipment, tools and materials
- relevant risk mitigation processes, including:
 - environmental and sustainable energy principles and practices
 - hazard warnings and safety signs
 - hazardous materials
 - hazards, risk assessment and control measures
 - PPE
 - site inspections
- relevant stakeholders, including:
 - authorised persons, authorities, clients, tenants and land owners
 - workplace colleagues
 - relevant customers and suppliers
 - pipeline control centre
 - regulatory bodies
 - emergency response organisations
- relevant technical drawings, plans and material lists
- relevant WHS/OHS legislated requirements
- relevant work permits
- relevant workplace documentation, records and reports
- relevant workplace policies and procedures
- types of pipeline control systems, including:
 - compression systems, prime movers, instrument and control systems and valve 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 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>

UEGNSG109 Control field pipeline operations

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 control and monitor field pipeline operations on a gas pipeline.

It includes controlling and shutting down pipeline systems in case of emergencies, monitoring and identifying faults, selecting and using relevant tools and equipment, and completing relevant documentation and reports

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

Pre-requisite Unit

Not applicable.

Competency Field

Cross Discipline Units

Unit Sector

Gas Industry

Elements and Performance Criteria

ELEMENTS

Elements describe the essential outcomes.

1 Plan control of pipeline operations

PERFORMANCE CRITERIA

Performance criteria describe the performance needed to demonstrate achievement of the element.

- 1.1** Work schedule, drawings, plans, job requirements and material lists are obtained, analysed and confirmed by site inspection, as necessary, and work planned and coordinated in accordance with workplace procedures
- 1.2** Work is prioritised and sequenced for completion within acceptable timeframes following consultation with

relevant person/s in accordance with workplace procedures

- 1.3** Hazards are identified, work health and safety (WHS)/occupational health and safety (OHS) risks are assessed and control measures prioritised, implemented and monitored in accordance with workplace procedures
- 1.4** Job requirements, work permit/s, resources and workplace procedures for the work are obtained for work site/s and communicated to relevant person/s in accordance with workplace procedures
- 1.5** WHS/OHS, environmental and sustainable energy policies and procedures are obtained and applied to ensure safe systems of work are followed
- 1.6** Relevant work permit/s are obtained to coordinate and perform work in accordance with regulatory and job requirements and workplace procedures
- 1.7** Relevant resources required for the work are identified and obtained in accordance with workplace procedures
- 1.8** Clients are provided with possible solutions and options within the scope, acceptable cost and job requirements parameters
- 1.9** Communication issues with relevant stakeholders are resolved and work coordinated in accordance with work schedule and workplace procedures
- 1.10** Person/s participating in the work are briefed and responsibilities coordinated and authorised in accordance with workplace procedures
- 1.11** Site is prepared to minimise risk and damage to property, commerce and individuals in accordance with the work schedule and workplace procedures

2 Control pipeline operations

- 2.1** WHS/OHS risk control measures and environmental policies and procedures are followed in accordance with workplace procedures
- 2.2** Hazardous activities are conducted safely in accordance with regulatory requirements and workplace procedures
- 2.3** Operating conditions, pressures and temperatures of the pipeline are monitored and observed to ensure correct operating parameters are maintained in accordance with

workplace procedures

2.4 2.5 2.6 2.7 2.8 3 Shut down pipeline system and complete relevant documentation	Alarms, codes and hazard warnings are correctly recognised and the correct response strategy is selected and applied in accordance with workplace procedures Remedial action/s are taken to address any shortfalls encountered in the work schedule in accordance with workplace procedures Work is coordinated to ensure completion in agreed timeframe and to industry standards with a minimum of waste in accordance with job requirements and workplace procedures Unplanned events and non-routine problems are identified and actioned in accordance with workplace procedures Quality and safety checks of the work are conducted in accordance with job requirements, workplace procedures and community and industry standards 3.1 Emergency shutdown procedures are applied to equipment failure and work undertaken in accordance with workplace procedures 3.2 Accidents and injuries are reported and followed up as required in accordance with workplace procedures 3.3 Work site is rehabilitated/cleaned up and confirmed safe in accordance with workplace procedures 3.4 Shutdown is completed in accordance with workplace procedures 3.5 Pre-shutdown checks are completed, documented and shift handover is conducted in accordance with workplace procedures

Foundation Skills

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

Range of Conditions

Range is restricted to essential operating conditions and any other variables essential to the work

environment.

Non-essential conditions may be found in the UEG Gas Training Industry Package Companion Volume Implementation Guide.

resources must include at least seven (7) of the following:

- process control equipment
- station power supply
- heaters and heat exchanges
- station instrumentation
- drawings and schematics
- metering equipment and gas analysis equipment
- valves, actuators and flanges
- compressors and prime movers
- sumps and drains
- pipeline inspection gauges (PIGs)

monitoring systems must include at least four (4) of the following:

- use of fire and gas extinguishing and deluge systems
- emergency systems
- alarm and communication systems
- supervisory control and data acquisition (SCADA)
- prime movers and compression systems
- shutdown systems

pipeline faults must include the following:

- gas leaks
- electrical problems
- compressor or pump failure
- out-of-current inspection status
- gauge failure or hose rupture leaks
- instruments out of calibration
- non-flow of gas

Unit Mapping Information

This unit replaces and is equivalent to UEGNSG109B Control field pipeline operations.

Links

Companion Volume Implementation Guides are found in VETNet - <https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=6a6c032e-ffcb-4f3d-8063-415efbd261e8>

Assessment Requirements for UEGNSG109 Control field pipeline operations

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 emergency shutdown procedures and response systems/strategies
- 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
 - selecting and using correct personal protective equipment (PPE)
 - working safely with hazardous materials and equipment
- applying sustainable energy and environmental principles and practices
- communicating with relevant stakeholders
- completing pre-shutdown checks
- conducting quality and safety checks
- dealing with unplanned events/situations in accordance with workplace procedures, in a manner that minimises risk to personnel and equipment
- interpreting technical drawings, plans and materials lists
- monitoring pipeline conditions, pressures and temperatures
- obtaining relevant work permits
- performing site inspections
- planning and controlling pipeline operations, including planning, prioritising and working in the gas industry
- rehabilitating and maintaining a clean work site
- shutting down pipeline system and completing relevant documentation
- using relevant tools, equipment and materials.

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:

- characteristics of gas flows
- characteristics, operation, capabilities and limitations of relevant tools, equipment and pipeline facilities
- hazardous activities, including lifting, climbing, working in confined spaces or aloft and using power tools
- pipeline system operating parameters
- relevant alarm, codes, hazard warnings and communication systems
- relevant stakeholders, including:
 - authorised persons, authorities, clients, tenants and land owners
 - plant operators and contractors
 - workplace colleagues
 - relevant customers and suppliers
 - regulatory bodies
 - emergency response organisations
- relevant WHS/OHS, environmental legislated requirements and risk mitigation procedures, including:
 - applicable emergency response procedures
 - hazards, risk assessment and control measures
 - environmental and sustainable energy principles and practices
 - hazard warnings and safety signs
 - hazardous materials
 - PPE
- relevant industry standards, guidelines, codes of practice and regulations, including:
 - industry terminology
 - manufacturer specifications
 - workplace policies and procedures
 - workplace permits and permit to work system
 - workplace documentation
- site inspections
- strategies for dealing with unplanned events/situations, including problem-solving techniques.

Assessment Conditions

As a minimum, assessors must satisfy applicable regulatory requirements, which include requirements in the Standards for Registered Training Organisations current at the time of assessment.

As a minimum, assessment must satisfy applicable regulatory requirements, which include requirements in the Standards for Registered Training Organisations current at the time of

assessment.

Assessment must occur in workplace operational situations where it is appropriate to do so; where this is not appropriate, assessment must occur in simulated workplace operational situations that replicate workplace conditions.

Assessment processes and techniques must be appropriate to the language, literacy and numeracy requirements of the work being performed and the needs of the candidate.

Resources for assessment must include access to:

- a range of relevant exercises, case studies and/or 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>

UEGNSG110 Supervise technical operations for gas distribution or transmission

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 supervise technical operations for gas distribution or transmission project.

It includes preparing, selecting and using relevant resources, including equipment, tools and personnel; identifying, solving and monitoring operational faults; and completing relevant documentation.

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

Pre-requisite Unit

Not applicable

Competency Field

Cross Discipline Units

Unit Sector

Gas Industry

Elements and Performance Criteria

ELEMENTS

Elements describe the essential outcomes.

1 Prepare to supervise operations

PERFORMANCE CRITERIA

Performance criteria describe the performance needed to demonstrate achievement of the element.

- 1.1 Project activities are planned to prevent further damage and to ensure minimal disruption to gas supply
- 1.2 Work is prioritised and sequenced for completion within acceptable timeframes following consultation with

relevant person/s in accordance with job requirements and workplace procedures

- 1.3** Hazards are identified, work health and safety (WHS)/occupational health and safety (OHS) risks are assessed and control measures prioritised, implemented and monitored in accordance with workplace procedures
- 1.4** Job requirements and workplace procedures for work are obtained for all work sites and communicated to relevant person/s in accordance with workplace procedures
- 1.5** WHS/OHS workplace procedures and environmental and sustainable energy policies and procedures related to the work are identified, obtained and applied
- 1.6** Relevant work permit/s are obtained to coordinate and perform the work in accordance with workplace procedures, regulatory and job requirements and
- 1.7** Person/s, equipment, tools and personal protective equipment (PPE) required for the job are identified, scheduled, coordinated and checked for correct operation and safety in accordance with workplace procedures
- 1.8** Clients are provided with possible solutions and options within the scope, acceptable cost and project requirement parameters
- 1.9** Communication issues with relevant stakeholders are resolved and project activities coordinated in accordance with work schedule and workplace procedures
- 1.10** Person/s participating in the project work are briefed and responsibilities coordinated and authorised, as required, in accordance with workplace procedures
- 1.11** Project expenditure is forecast, monitored and managed in accordance with operational budget constraints

2 Supervise operations during project

- 2.1** WHS/OHS risk control measures are followed in accordance with workplace procedures
- 2.2** Equipment and systems are inspected, tested and faults identified in accordance with work schedule, job requirements and workplace procedures

- 2.3 Hazard warnings and safety signs are recognised, hazards and WHS/OHS risks assessed and reported to authorised person/s for directions in accordance with workplace procedures
 - 2.4 Fault finding and troubleshooting techniques are applied to identify repairs or maintenance required in accordance with project job requirements and workplace procedures
 - 2.5 Project work is supervised to ensure completion in agreed timeframe and to industry standards with a minimum of waste in accordance with job requirements and workplace procedures
 - 2.6 Unplanned situations are responded to in accordance with workplace procedures, in a manner that minimises risk to personnel and equipment
 - 2.7 Quality and safety checks of the work are undertaken in accordance with job requirements, workplace procedures and community and industry standards
 - 2.8 Relevant person/s are updated with project status/requirements in accordance with workplace procedures
- 3 **Complete project work and relevant documentation**
 - 3.1 Work undertaken is checked against project work schedule for conformance and anomalies and proposed solutions identified and reported to relevant person/s in accordance with workplace procedures
 - 3.2 Accidents and injuries are reported and followed up as required in accordance with workplace procedures
 - 3.3 Work site is rehabilitated/cleaned up and confirmed safe in accordance with workplace procedures
 - 3.4 Tools, equipment and surplus resources and materials are cleaned, checked and returned to storage in accordance with workplace procedures
 - 3.5 Relevant work permit/s are signed off in accordance with workplace procedures, job and regulatory requirements
 - 3.6 Project work completion records, reports, documentation and as installed/modified drawing/s are completed, processed and appropriate person/s notified

in accordance with workplace procedures

Foundation Skills

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

Range of Conditions

Range is restricted to essential operating conditions and any other variables essential to the work environment.

Non-essential conditions may be found in the UEG Gas Industry Training Package Companion Volume Implementation Guide.

resources must include at least four (4) of the following:

- relevant personnel
- materials
- tools and equipment
- personal protective equipment (PPE)
- workplace procedures
- equipment manuals
- training resources

project activities must include at least three (3) of the following:

- maintenance, repairs and modifications
- construction and upgrade
- rectification of gas system faults
- installation and commissioning of new plant, piping and equipment
- system security
- scheduling work

authorities must include at least three (3) of the following:

- local and shire councils
- local government authorities
- road transport authorities
- rail departments
- landowners both current and traditional indigenous

gas system faults must include at least eight (8) of the following:

- gas leaks
- electrical problems
- mechanical failure
- out-of-current inspection status
- gauge failure, hose rupture/leaks
- instruments out of calibration
- non-flow of gas
- cathodic protection system failure

documentation must include at least eight (8) of the following:

- corrosion
- compressor breakdown
- filtration problems
- gas measurement equipment inaccuracy/failure
- contracts and specifications
- drawings and plans
- manufacturer specifications
- work permits
- company standard operation and safety procedures
- company management plans and policies
- hot work permits
- company forms and files
- WHS/OHS laws and codes of practice
- relevant government acts, regulations and codes of practice
- environmental legislative requirements
- pipeline licenses
- quality assurance
- commercial agreements

records/reports must include at least four (4) of the following:

- relevant documentation
- routine inspections (daily readings, monthly checks)
- scheduled maintenance activities
- mandatory or statutory inspections
- hazard and incident reports

Unit Mapping Information

This unit replaces and is equivalent to UEGNSG110B Supervise technical operations for gas distribution or transmission.

Links

Companion Volume Implementation Guides are found in VETNet -
<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=6a6c032e-ffcb-4f3d-8063-415efbd261e8>

Assessment Requirements for UEGNSG110 Supervise technical operations for gas distribution or transmission

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 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), including:
 - applying inspecting and testing workplace procedures
 - identifying and reporting hazard
 - implementing risk control measures
 - selecting and using correct personal protective equipment (PPE)
 - working safely with hazardous materials and equipment
- communicating with relevant stakeholders
- completing project work and relevant records, reports and documentation
- conducting project quality and safety checks
- dealing with unplanned events/situations in accordance with workplace procedures, in a manner that minimises risk to personnel and equipment
- obtaining and complying with relevant work permits
- operating within project budget constraints
- performing operations during projects
- planning and supervising gas project operations
- prioritising and sequencing work to meet project timeframes
- rehabilitating and maintaining a clean work site.

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:

- effective communication techniques

- environmental and sustainable energy principles and practices
- operating principles of gas industry infrastructure and equipment, including pipelines and facilities
- problem-solving techniques
- project expenditure and budget constraints
- quality and safety checks
- relevant industry standards, guidelines, codes of practice and regulations
- relevant gas industry equipment, tools and materials
- relevant manufacturer specifications
- relevant safe work method statements (SWMS)/job safety assessments or risk mitigation processes, including:
 - hazards, risk assessment and control measures
 - hazard warnings and safety signs
 - hazardous materials
 - PPE
- relevant stakeholders, including:
 - authorised persons, authorities, clients, tenants and land owners
 - plant operators and contractors
 - internal colleagues
- relevant timeframes
- relevant WHS/OHS legislated requirements
- relevant work permits
- relevant workplace policies and procedures, including procedures for identifying, diagnosing, assessing, analysing, locating and repairing faults in gas infrastructure
- relevant workplace records, reports and 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 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>

UEGNSG113 Manage a utilities industry WHS management system

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 manage a utilities industry work health and safety (WHS)/occupational health and safety (OHS) management system.

It includes determining and maintaining participative arrangements, risk management and hazardous events WHS/OHS management system. It also includes maintaining induction and WHS/OHS training programs, WHS/OHS record management and evaluating system and programs.

The unit is to be applied to establish, maintain and manage systematic approaches to WHS/OHS in the utilities industry. It will be applied in a management context in terms of responsibility to ensure that the workplace is, as far as practicable, safe and without risk to employees, clients and other present visitors.

This unit shall apply to any safe work site where gas industry operations occur. It could also apply to other workplaces in the electricity supply industry (transmission and distribution and generation), the electrotechnology industry and the water industry, subject to all WHS/OHS and duty of care requirements being met for the workplace.

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

Pre-requisite Unit

Not applicable

Competency Field

Cross Discipline Units

Unit Sector

Gas Industry

Elements and Performance Criteria

ELEMENTS

Elements describe the essential outcomes.

1 Review and improve participative arrangements for the management of WHS/OHS

2 Determine and maintain risk management and hazardous events workplace procedures

PERFORMANCE CRITERIA

Performance criteria describe the performance needed to demonstrate achievement of the element.

- 1.1** WHS/OHS management system purpose is reviewed after workplace data is analysed and expected outcomes of work are confirmed with the appropriate personnel
- 1.2** WHS/OHS legislative requirements and workplace procedures on policies and specifications for the WHS/OHS management system are obtained and reviewed with the appropriate personnel
- 1.3** Work roles and tasks are allocated in accordance with requirements and worker skills and knowledge
- 1.4** Work is prioritised and sequenced for the most efficient outcome, completed within an acceptable timeframe to a quality standard and in accordance with workplace procedures
- 1.5** Appropriate participative processes with employees and their representatives are established and maintained in accordance with relevant industry standards consistent with workplace procedures
- 1.6** Issues raised through participation and consultation are dealt with and resolved promptly and effectively in accordance with workplace procedures for issues resolution
- 1.7** Information is provided to employees about the outcome of participation and consultation in a manner accessible to employees
- 2.1** WHS/OHS management system decisions are made on the basis of safety and effective outcomes in accordance with job requirements and workplace procedures
- 2.2** Specific data is analysed and compared with compliance specifications to ensure completion of the project within an agreed timeframe in accordance with job requirements

- 2.3 Work teams are arranged to ensure planned goals are met in accordance with workplace procedures
 - 2.4 Unplanned situations are responded to in accordance with workplace procedures, in a manner that minimises risk to personnel and equipment
 - 2.5 Quality of work is monitored in accordance with performance agreement and workplace procedures and relevant industry standards
 - 2.6 Strategic plans are reviewed and confirm strategies incorporate organisation WHS/OHS initiatives in accordance with workplace procedures
 - 2.7 Workplace procedures are developed for workplace hazard identification, hazardous events, risk assessment and implementation of control measures
 - 2.8 Identification of hazards is identified and risk assessed at the project planning, design and evaluation stages of any changes in the workplace to ensure that hazards are not created by the proposed changes
 - 2.9 Procedures for selection and implementation of risk control measures are developed and maintained in accordance risk management code of practice and using the hierarchy of risk control
 - 2.10 Existing control measures are identified and reviewed in accordance with the hierarchy of risk control and resources to enable implementation of new measures are provided promptly
- 3 Maintain an WHS/OHS induction and training program, maintain a system for WHS/OHS records and evaluate the WHS/OHS system including policies, procedures and programs**
- 3.1 Inspections of WHS/OHS management system are undertaken to ensure compliance with WHS/OHS legislated requirements and include all specifications and documentations needed to complete the program
 - 3.2 Relevant personnel are notified of program completion and reports and completion documents are finalised
 - 3.3 Reports and completion documents are submitted to relevant personnel for approval and, as required, statutory or regulatory approval

- 3.4 Approved copies of the WHS/OHS management systems documents are issued and records are updated in accordance with workplace procedures
- 3.5 WHS/OHS training needs are identified and an induction and training program developed to fulfil employee's WHS/OHS training needs as a part of the workplace general training program
- 3.6 Training management system(s) are maintained so that individual employee's WHS/OHS training needs are identified, training attendance monitored and non-attendance followed up
- 3.7 Monitoring systems for keeping WHS/OHS records to meet regulatory requirements are maintained in accordance with WHS/OHS legislative arrangements
- 3.8 WHS/OHS system workplace policies, procedures and programs are assessed in accordance with organisational strategies and WHS/OHS obligations
- 3.9 Recommendations and improvements to the WHS/OHS system are developed, documented and implemented to ensure effectiveness in accordance with workplace procedures
- 3.10 Compliance with WHS/OHS legislative requirements and established procedures is assessed to ensure that legal WHS/OHS standards are maintained as a minimum
- 3.11 Appropriate personnel are notified on the outcomes of the evaluation(s) and recommendations and completion documents are finalised/commissioned in accordance with workplace procedures

Foundation Skills

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

Range of Conditions

Range is restricted to essential operating conditions and any other variables essential to the work environment.

Non-essential conditions may be found in the UEG Gas Industry Training Package Companion Volume Implementation Guide.

Unit Mapping Information

This unit replaces and is equivalent to UEGNSG113B Manage a utilities industry OHS management system.

Links

Companion Volume Implementation Guides are found in VETNet -
<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=6a6c032e-ffcb-4f3d-8063-415efbd261e8>

Assessment Requirements for UEGNSG113 Manage a utilities industry WHS management system

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 and performance criteria on at least two separate occasions and include:

- analysing relevant workplace data and supporting the delivery of relevant information sessions
- analysing workforce characteristics and composition on the work health and safety (WHS)/occupational health and safety (OHS) system
- applying principles and practices of WHS/OHS risk management, including hierarchy of risk control measures, risk management, WHS/OHS training and incident and accident investigation
- applying problem solving, decision making and conflict resolution techniques
- applying relevant state and territory legislation, regulations, codes of practice and relevant industry standards
- applying relevant WHS/OHS requirements, including:
 - applying workplace procedures and practices
 - using risk control measures
- assessing resources needed to maintain WHS/OHS systems, including a range of control measures and existing hazard register
- communicating and consulting with work groups
- dealing effectively with unplanned events in accordance with workplace procedures, in a manner that minimises risk to personnel and equipment
- determining the need for expert advice, when it is needed, obtaining relevant advice and acting on it appropriately
- determining the relevance between WHS/OHS management system to other organisational systems, policies and workplace procedures
- developing relevant reports to manage WHS/OHS management system
- developing, implementing and maintaining organisational WHS/OHS policies and workplace procedures
- identifying hazards, analysing and managing risks in the workplace and designing and implement appropriate WHS/OHS risk management systems
- managing a systematic approach to WHS/OHS.

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:

- application of WHS/OHS management system in relation to organisational management systems
- effective communication for techniques gas industry managers and supervisors, including:
 - verbal and non-verbal communication
 - choosing the medium and the flow of a message
 - blocks to effective communication
 - analysing and interpreting recorded data, reviewing and reporting requirements
 - information technology for communication
- industrial awards and employee entitlements
- problem solving, decision making and conflict resolution techniques
- relevant industry standard operating procedures, site-specific safety legislation and requirements, and workplace policies and procedures
- relevant job safety assessments or risk mitigation processes, including risk management techniques for gas utilities industry
- relevant WHS/OHS and environmental legislated requirements
- relevant WHS/OHS management system
- relevant workplace 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 must include access to:

- a range of relevant exercises, case studies and/or other simulations
- relevant and appropriate materials, tools, equipment and personal protective equipment (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>

UEGNSG120 Manage gas system environmental compliance

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 manage gas system environmental compliance.

It includes identifying, reviewing and documenting environmental and work health and safety (WHS)/occupational health and safety (OHS) management plan issues for a proposed gas system. It also includes facilitating negotiations for compliance with regulations, relevant industry standards and codes of practice.

This unit applies to any safe work site where gas industry operations occur. It could also apply, where applicable, to other workplaces in the electricity supply industry (transmission and distribution and generation), the electrotechnology industry and the water industry, subject to WHS/ OHS and duty of care requirements being met for the workplace.

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

Pre-requisite Unit

Not applicable.

Competency Field

Cross Discipline Units

Unit Sector

Gas Industry

Elements and Performance Criteria

ELEMENTS

Elements describe the essential outcomes.

1 Identify and document

PERFORMANCE CRITERIA

Performance criteria describe the performance needed to demonstrate achievement of the element.

1.1 WHS/OHS principles and practices and environmental

environmental issues for proposed gas system	and sustainable energy workplace procedures which may influence the system are reviewed and determined
1.2	Legislative requirements are identified and impact assessments are organised, as required, in accordance with workplace procedures
1.3	Organisational procedures on policies and specifications for the environmental work are obtained or determined with appropriate personnel
1.4	Testing parameters are determined from organisational workplace procedures on policies and specifications
1.5	Testing procedures are discussed with appropriate personnel to determine environmental project brief
1.6	Equipment, tools and personal protective equipment (PPE) are selected and coordinated based on specified workplace requirements and procedures
1.7	Work roles and tasks are allocated in accordance with workplace requirements and person/s competency
1.8	Work is prioritised and sequenced for effective outcome, completed within an acceptable timeframe to industry quality standard and in accordance with workplace procedures
1.9	Liaison and communication with authorised personnel, authorities, clients and land owners are undertaken to resolve environmental issues and coordinate work activities
1.10	Risk control measures are identified, prioritised and evaluated against the work schedule
1.11	Relevant work permits are secured to coordinate the performance of work in accordance with workplace requirements and procedures
2 Facilitate negotiations for environmental compliance with regulations, industry standards and codes of practice	2.1
Internal and external stakeholders are identified and relevant qualified persons are consulted on compliance needs	2.2
Practicable negotiated decisions are made on the basis of safety and environmental compliance and effective outcomes in accordance with workplace requirements	

and procedures

- 2.3 Technical advice is obtained regarding hazards, assessed risks and reasonably practicable risk control measures so that monitoring can be undertaken and appropriate authorities consulted, as required, in accordance with workplace requirements and procedures
- 2.4 Specific data is analysed and compared with compliance specifications to ensure completion of the project within an agreed timeframe in accordance with workplace requirements
- 2.5 Work teams are arranged to ensure planned goals are met in accordance with workplace procedures
- 2.6 Solutions to unplanned events are responded to in accordance with workplace procedures, in a manner that minimises risk to personnel and equipment
- 2.7 Quality of work is monitored against performance agreement and workplace, organisational and industry standards
- 2.8 Environmental strategic plan is developed incorporating organisation initiatives in accordance with workplace procedures

3 Review environmental and WHS/OHS management plan for a gas system

- 3.1 Environmental and WHS/OHS risks and their likely impacts for a gas system on the installation assets and to communities are identified and analysed to determine reasonably practicable control options
- 3.2 Options for addressing potential environmental impacts are identified, determined and costed
- 3.3 Requisite environmental and WHS/OHS management strategies are determined and recommendations made in accordance with workplace policies, procedures and processes
- 3.5 Inspections of the gas system work are undertaken to ensure compliance with requirements, specifications and documentations needed to complete the environmental project
- 3.6 Persons are notified of management plan for a gas system completion and reports and completion documents are finalised

- 3.7 Management plan reports and completion documents are submitted to relevant personnel and organisations for approval and as required, statutory or regulatory approval
- 3.8 Approved copies of documents are issued and records are updated in accordance with workplace procedures

Foundation Skills

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

Range of Conditions

Range is restricted to essential operating conditions and any other variables essential to the work environment.

Non-essential conditions may be found in the UEG Gas Industry Training Package Companion Volume Implementation Guide.

constants and variables must include the following:

- gas systems
- legislative compliance
- environmental issues
- safety issues
- relevant personnel

gas system must include one (1) of the following:

- natural gas transmission, distribution and storage
- liquefied petroleum gas (LPG) tanker and ship transport
- storage and processing terminals and distribution systems

legislative compliance must include the following:

- WHS/OHS legislation
- relevant government acts, regulations and codes of practice
- relevant industry standards and codes of practice
- environmental legislative requirements

environmental issues must include the following:

- political
- legal
- community and aesthetic impact of installations

safety issues must include the following:

- WHS/OHS operatives
- ongoing maintenance of facilities

- relevant personnel must include at least six (6) of the following:
- emergency response plans
 - safety cases and environmental impact assessments for major hazardous facilities (MHFs)
 - managers
 - other supervisors
 - inter-company departments
 - other utilities
 - council representatives
 - producers, transporters/shippers
 - consultants
 - government bodies/agencies
 - refinery personnel
 - customers
 - land owners/traditional land owners
- relevant authorities must include the following:
- government authorities
 - land owners both current and traditional
 - local councils
 - land management groups
 - other utilities
 - in-house quality control groups and management

Unit Mapping Information

This unit replaces and is equivalent to UEGNSG120B Manage gas system environmental compliance.

Links

Companion Volume Implementation Guides are found in VETNet - <https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=6a6c032e-ffc3-4f3d-8063-415efbd261e8>

Assessment Requirements for UEGNSG120 Manage gas system environmental compliance

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:

- analysing data to ensure compliance with regulatory and workplace requirements
- applying relevant work health and safety (WHS)/occupational health and safety (OHS) requirements, including using of risk control measures
- applying sustainable energy principles and practices
- dealing effectively with unplanned events in accordance with workplace procedures, in a manner that minimises risk to personnel and equipment
- developing environmental strategic plan for gas system environmental compliance
- facilitating compliance negotiations, including relevant gas industry regulations, industry standards and codes of practice
- identifying and documenting environmental issues for proposed gas system
- reviewing environmental and WHS/OHS management plans for a gas system.

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:

- chemical and physical behaviour of gases, and their effects in a gas system
- emergency management techniques in a gas industry environment
- gas system environmental compliance
- theory and study of hazard and operability (HAZOP) and hazard analysis (HAZAN)
- relevant job safety assessments or risk mitigation processes, including:
 - risk assessment, risk control and risk control measures
 - hierarchy of risk control
 - hazards and their consequences
 - hazards, assessing associated risks and implementing appropriate control measures
 - hazards and hazardous events
- relevant WHS/OHS legislated, industry standards and codes of practice for the gas industry

requirements

- relevant workplace documentation
- relevant workplace policies and 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 must include access to:

- a range of relevant exercises, case studies and/or other simulations
- relevant and appropriate materials, tools, equipment and personal protective equipment (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>

UEGNSG131 Compile a gas industry technical report

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 compile a gas industry technical report.

It includes preparing, identifying, collecting and analysing gas industry data and information to compile a technical report.

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

Pre-requisite Unit

Not applicable.

Competency Field

Gas Cross Discipline

Unit Sector

Gas Industry

Elements and Performance Criteria

ELEMENTS

Elements describe the essential outcomes.

1 Prepare to develop a technical report

PERFORMANCE CRITERIA

Performance criteria describe the performance needed to demonstrate achievement of the element.

- 1.1** Report writing techniques are reviewed and applied in accordance with workplace procedures and job requirements
- 1.2** Scope of report is evaluated and report parameters determined
- 1.3** Criteria from other related works impacting on the

		report are determined
	1.4	Information and data required for the technical report are identified, researched and analysed
2 Develop a gas industry technical report	2.1	Report is developed in consultation with relevant person/s to include scenarios/requirements in accordance with workplace procedures and regulatory requirements
	2.2	Inputs into the report are analysed and report reviewed and adjusted to rectify any anomalies in accordance with workplace procedures
	2.3	Report is compiled using relevant equipment, computer and software in accordance with workplace procedures
3 Complete and present the final report for approval	3.1	Report is presented and discussed with relevant person/s for feedback and evaluation in accordance with workplace procedures
	3.2	Alterations to the report resulting from presentation/discussion are negotiated with relevant person/s and changes made in accordance with workplace procedures
	3.3	Technical report is finalised and approval for completion obtained from relevant person/s in accordance with workplace procedures

Foundation Skills

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

Range of Conditions

Range is restricted to essential operating conditions and any other variables essential to the work environment.

Non-essential conditions may be found in the UEG Gas Industry Training Package Companion Volume Implementation Guide.

Unit Mapping Information

This unit replaces and is equivalent to UEGNSG131A Compile a gas industry technical report.

Links

Companion Volume Implementation Guides are found in VETNet -
<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=6a6c032e-ffcb-4f3d-8063-415efbd261e8>

Assessment Requirements for UEGNSG131 Compile a gas industry technical report

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 and performance criteria on at least two separate occasions and include:

- applying problem-solving techniques
- applying relevant industry standards, guidelines, codes of practice and regulations
- applying report writing policies and procedures
- applying workplace policies and procedures
- communicating with relevant person/s
- developing and writing technical report, including:
 - completing the final report and obtaining approval
 - determining other works impacting on the report
 - identifying and analysing information and data to prepare technical report
 - planning to develop a technical report
 - rectifying anomalies within the report
 - researching for technical report writing
- presenting report to relevant person/s
- using relevant equipment, computer and software for technical report writing.

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:

- decision making and reporting requirements
- effective communication techniques; written and verbal
- environmental and sustainable energy principles and practices
- infotechnology and relevant software use for technical report writing
- presentation skills
- relevant industry standards, guidelines, codes of practice and regulations, including relevant work health and safety (WHS)/occupational health and safety (OHS) legislated requirements
- relevant workplace documentation, including gas industry technical reports

- report writing techniques
- research concepts and techniques
- techniques to analyse information and data to prepare a technical report
- workplace policies and procedures, including technical report writing 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 must include access to:

- a range of relevant exercises, case studies and/or other simulations
- relevant and appropriate materials, tools, equipment and personal protective equipment (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>

UEGNSG132 Carry out basic work activities in a gas industry work environment

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 carry out work activities in a gas industry environment.

It includes following workplace procedures to correctly and safely carry out gas industry work activities using appropriate materials, tools and measuring devices.

The application of the skills and knowledge described in this unit may require a license or permit to practice in the workplace.

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

Pre-requisite Unit

Not applicable.

Competency Field

Cross Discipline

Unit Sector

Gas Industry

Elements and Performance Criteria

ELEMENTS

Elements describe the essential outcomes.

1 Prepare to carry out basic work activities

PERFORMANCE CRITERIA

Performance criteria describe the performance needed to demonstrate achievement of the element.

1.1 Work health and safety (WHS)/occupational health and safety (OHS), environmental and sustainable energy measures and workplace policies and procedures relevant for the workplace are identified, obtained and

applied

- 1.2** Job requirements and workplace procedures for the workplace are obtained and discussed with relevant person/s to confirm the work schedule
- 1.3** Hazards are identified and reported to relevant person/s to assess risks and control measures implemented in accordance with workplace procedures
- 1.4** Work is confirmed with relevant person/s in accordance with job requirements and workplace procedures to ensure work activities are carried out effectively
- 1.5** Tools, equipment and personal protective equipment (PPE) required for the work are identified, obtained and checked for correct operation and safety in accordance with workplace procedures and manufacturer instructions
- 1.6** Materials, plans, diagrams, drawings and resources required for the work are obtained in accordance with workplace procedures
- 1.7** Workplace preparation, safety plan and work schedule are confirmed with relevant person/s in accordance with workplace procedures

2 Carry out basic work activities

- 2.1 WHS/OHS risk control measures, schedule of work and workplace procedures for carrying out work are followed
- 2.2 Machines/plant/equipment are confirmed as being safe in accordance with WHS/OHS requirements and workplace procedures
- 2.3 Materials, tools, equipment and measuring devices required for the work are selected and used correctly and safely in accordance with manufacturer instructions and workplace procedures
- 2.4 Work is carried out to the required quality standard, without waste of materials or damage to apparatus, equipment, the surrounding environment or services and using sustainable energy principles
- 2.5 Unplanned events are referred to immediate supervisor for directions in accordance with workplace procedures

	2.6	Work activity quality and safety checks are carried out in accordance with work instructions
3 Complete work and relevant documentation	3.1	WHS/OHS risk control measures for work completion are followed
	3.2	Workplace is tidied, reinstated and made safe in accordance with workplace procedures
	3.3	Tools, equipment and measuring devices are cleaned, checked and securely stored in accordance with workplace procedures
	3.4	Relevant person/s are notified of work completion in accordance with workplace procedures
	3.5	Relevant documentation is completed and provided to relevant person/s in accordance with workplace procedures

Foundation Skills

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

Range of Conditions

Range is restricted to essential operating conditions and any other variables essential to the work environment.

Non-essential conditions may be found in the UEG Gas Industry Training Package Companion Volume Implementation Guide.

Unit Mapping Information

This unit replaces and is equivalent to UEGNSG132A Carry out basic work activities in a gas industry work environment.

Links

Companion Volume Implementation Guides are found in VETNet -
<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=6a6c032e-ffcb-4f3d-8063-415efbd261e8>

Assessment Requirements for UEGNSG132 Carry out basic work activities in a gas industry work environment

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 and performance criteria on at least two separate occasions and include:

- 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
 - reporting WHS/OHS hazards, risks and incidents to relevant person/s
 - selecting and using relevant personal protective equipment (PPE)
- applying sustainable energy and environmental principles and practices
- carrying out gas industry work activities
- cleaning, checking and storing tools, equipment and measuring devices
- communicating effectively with relevant person/s
- completing workplace documentation
- conducting quality and safety checks
- dealing with unplanned events in accordance with workplace procedures
- identifying, selecting and using appropriate equipment, tools and measuring devices for relevant work activities
- maintaining a clean work area
- obtaining job requirements and work instructions
- obtaining relevant resources and materials to conduct the work.

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:

- correct selection, safe operation, cleaning and storing of relevant gas industry materials, equipment, tools and measuring devices
- effective communication techniques
- environmental and sustainable energy principles and practices, including techniques to

- minimise waste
- hazards in the workplace
- job specifications and job requirements
- problem-solving techniques
- quality and safety checks
- relevant gas industry materials, plans, diagrams, drawings and resources, including graphs and tables
- relevant gas industry regulations, codes and legislation
- relevant industry and technical standards
- relevant machines/plant/equipment
- relevant manufacturer instructions
- relevant person/s to consult to coordinate and finalise work
- relevant WHS/OHS legislated requirements
- relevant workplace documentation
- relevant workplace policies and procedures
- relevant risk mitigation processes, including relevant PPE, safety plans and work schedules.

Assessment Conditions

As a minimum, assessors must satisfy applicable regulatory requirements, which include requirements in the Standards for Registered Training Organisations current at the time of assessment.

As a minimum, assessment must satisfy applicable regulatory requirements, which include requirements in the Standards for Registered Training Organisations current at the time of assessment.

Assessment must occur in workplace operational situations where it is appropriate to do so; where this is not appropriate, assessment must occur in simulated workplace operational situations that replicate workplace conditions.

Assessment processes and techniques must be appropriate to the language, literacy and numeracy requirements of the work being performed and the needs of the candidate.

Resources for assessment must include access to:

- a range of relevant exercises, case studies and/or 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>

UEGNSG133 Comply with environmental policies and procedures in the utilities industry

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 comply with environmental policy and workplace procedures whilst undertaking tasks in a utilities industry workplace or work site.

It includes complying with relevant legislations, standards, regulations and codes of practice and their application to relevant workplace tasks and completing relevant work completion documentation.

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

Pre-requisite Unit

Not applicable.

Competency Field

Gas Cross Discipline

Unit Sector

Gas Industry

Elements and Performance Criteria

ELEMENTS

Elements describe the essential outcomes.

1 Prepare to comply with environmental policy and procedures

PERFORMANCE CRITERIA

Performance criteria describe the performance needed to demonstrate achievement of the element.

1.1 Work instructions and work health and safety (WHS)/occupational health and safety (OHS) workplace procedures for the site are identified, obtained and applied

- 1.2 Job requirements and workplace procedures are obtained and discussed with relevant person/s to confirm the work schedule
 - 1.3 Environmental aspects are identified and potential/actual environmental impacts are evaluated and prioritised in accordance with workplace procedures
 - 1.4 Environmental and sustainability principles including purchasing/using environmentally beneficial equipment and materials and waste disposal are considered prior to work commencing
 - 1.5 WHS/OHS, environmental policies, procedures and legislation are obtained and applied
 - 1.6 Recommendations to assist with environmental policies and procedures compliance are made to others involved in the work
 - 1.7 Environmental and WHS/OHS hazards are identified, risks assessed and control measures prioritised, implemented and monitored in accordance with environmental and workplace policies and procedures
 - 1.8 Resources and environmentally compliant equipment are identified, obtained and checked for correct operation and safety in accordance with workplace procedures
 - 1.9 Workplace preparation and work schedule are confirmed with relevant person/s in accordance with workplace procedures
 - 1.10 Client issues are referred to appropriate person/s in accordance with industry and community standards
- 2 **Comply with environmental policy and procedures**
 - 2.1 WHS/OHS risk control measures, schedule of work and workplace procedures for carrying out work are followed
 - 2.2 Environmental requirements for the work are implemented and reviewed and control measures recommended for inclusion in the work process
 - 2.3 Materials, tools and equipment required for the work are selected and used correctly and safely in accordance with manufacturer instructions and workplace procedures

- 2.4 Environmental incidents and potential problems are immediately reported to relevant person/s and dealt with in accordance with workplace procedures and legislative requirements
 - 2.5 Work is undertaken to ensure completion in agreed timeframe, to industry standards and with a minimum of waste or damage to the surrounding environment or services and using environmental and sustainable energy policies and procedures
 - 2.6 Compliance with environmental policies and procedures is carried out in an agreed timeframe, to a quality standard and with a minimum of waste in accordance with given instructions and established procedures
 - 2.7 Non-routine events, accidents and incidents are reported to authorised person/s for directions in accordance with workplace procedures
 - 2.8 Quality and safety checks of work are conducted in accordance with work instructions, industry standards and workplace procedures
- 3 **Complete work and relevant documentation**
 - 3.1 WHS/OHS risk control measures and workplace procedures for completing the work are followed
 - 3.2 Work site is tidied and made safe in accordance with workplace and environmental procedures
 - 3.3 Tools, equipment and any surplus resources and materials are cleaned and securely stored in accordance with workplace and environmental procedures
 - 3.4 Appropriate person/s are notified of work completion in accordance with workplace procedures
 - 3.5 Waste is disposed of and reports completed as required in accordance with workplace and environmental procedures
 - 3.6 Relevant environmental records, reports forms and data sheets are completed in accordance with workplace procedures

Foundation Skills

Foundation skills essential to performance are explicit in the performance criteria of this unit of

competency.

Range of Conditions

Range is restricted to essential operating conditions and any other variables essential to the work environment.

Non-essential conditions may be found in the UEG Gas Industry Companion Volume Implementation Guide.

identifying, locating and interpreting relevant information and workplace procedures must include at least three (3) of the following:

- interpret alignment sheets, maps, technical drawings and symbols
- identify environmental aspects and potential or actual impacts
- identify potential environmental hazards
- carry out risk assessment, job hazard analysis (JHA) or job safety analysis (JSA) that includes environmental risks
- ensure practical application of environmental legislation, environmental management plans and environmental procedures and relevant codes of practice, such as Environment Protection Authority (EPA)

procedures to control and minimise the impact of an environmental incident must include at least three (3) of the following:

- incident reporting
- apply incident reporting and notification procedures
- environmental incident review procedures
- review environmental incident
- make recommendations to prevent reoccurrence
- implement recommendations

environmental risk control measures must include at least two (2) of the following:

- above ground level sites
- below ground level sites
- easements
- public sites, requiring pedestrian and traffic control
- private sites

compliance with environmental policies and procedures must include at least one (1) of the following utilities industry work sites:

Unit Mapping Information

This unit replaces and is equivalent to UEGNSG133A Comply with environmental policies and procedures in the utilities industry.

Links

Companion Volume Implementation Guides are found in VETNet -
<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=6a6c032e-ffcb-4f3d-8063-415efbd261e8>

Assessment Requirements for UEGNSG133 Comply with environmental policies and procedures in the utilities industry

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 control measure and workplace procedures, including:
 - air emission control measures
 - chemical management controls (safety data sheets (SDS), storage, labelling and bunding)
 - community consultation requirements
 - fauna protection
 - hazardous waste management
 - heritage management techniques
 - installation of sediment and erosion control measures in accordance with legislative or best practice requirements
 - noise control techniques and work hour limitations
 - rehabilitation requirements
 - vegetation management requirements
 - waste management principles (recycling)
 - water management requirements (works near waterways)
 - weed spread mitigation
- applying relevant industry standards, guidelines, codes of practice and regulations
- applying relevant work health and safety (WHS)/occupational health and safety (OHS) requirements, including:
 - communicating effectively with others
 - identifying and reporting environmental and WHS/OHS hazards
 - implementing risk control measures
 - maintaining a safe and clean workplace environment
- applying sustainable energy and environmental principles and practices
- completing work and relevant environmental documentation, reports, records and forms
- complying with environmental policies and procedures
- controlling and minimising the impact of an environmental incident
- dealing with non-routine events, accidents and emergencies in accordance with workplace

procedures

- following environmental incident review procedures
- following workplace procedures
- identifying potential and actual environmental hazards and impacts
- identifying, interpreting and applying relevant environmental procedures
- making recommendations to prevent occurrence
- minimising waste and damage to the environment
- preparing to comply with environmental policies and procedures
- reviewing control measures
- selecting and using environmentally beneficial equipment and materials.

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:

- causes of environmental damage including chemicals, oil, water contamination, carcinogenic agents, gases, dusts, waste contamination and noise
- environmental aspects, including impacts on:
 - air
 - land
 - water
 - waste
 - flora (vegetation) and fauna
 - heritage
 - resource use
 - community
- environmental compliance in a utilities industry work environment
- environmentally beneficial equipment and materials
- environmentally safe waste disposal
- relevant environmental legislation, regulations, standards, acts and codes of practice
- relevant manufacturer specifications
- relevant procedures to control and minimise the impact of an environmental incident
- relevant safe work method statements (SWMS)/job safety assessments or risk mitigation processes, including:
 - environmental control measure workplace procedures
 - environmental hazards, risk assessment, control measures and incident responses
 - environmental incident review procedures
- relevant WHS/OHS legislated requirements
- relevant workplace documentation includes records, and incident reporting
- relevant workplace policies and procedures, including environment protection workplace

procedures

- response to workplace environmental incidents
- role of regulatory bodies in monitoring environmental activities, risk and incident compliance.

Assessment Conditions

As a minimum, assessors must satisfy applicable regulatory requirements, which include requirements in the Standards for Registered Training Organisations current at the time of assessment.

As a minimum, assessment must satisfy applicable regulatory requirements, which include requirements in the Standards for Registered Training Organisations current at the time of assessment.

Assessment must occur in workplace operational situations where it is appropriate to do so; where this is not appropriate, assessment must occur in simulated workplace operational situations that replicate workplace conditions.

Assessment processes and techniques must be appropriate to the language, literacy and numeracy requirements of the work being performed and the needs of the candidate.

Resources for assessment must include access to:

- a range of relevant exercises, case studies and/or other simulations
- relevant and appropriate materials, tools, equipment and personal protective equipment (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>

UEGNSG134 Establish a utilities infrastructure work site

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 establish utilities infrastructure work sites.

It includes planning and scheduling work, organising resources, materials, procedures and the site for required utilities work activities in accordance with relevant legislation, industry standards, codes of practice and workplace procedures and complete work and relevant documentation.

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

Pre-requisite Unit

Not applicable.

Competency Field

Cross Discipline

Unit Sector

Gas Industry

Elements and Performance Criteria

ELEMENTS

Elements describe the essential outcomes.

1 Prepare to establish a utilities work site

PERFORMANCE CRITERIA

Performance criteria describe the performance needed to demonstrate achievement of the element.

- 1.1** Work health and safety (WHS)/occupational health and safety (OHS), environmental and sustainable energy control measures and workplace policies and procedures for the site are identified, obtained and applied

- 1.2 Job requirements for the work site are obtained and discussed with relevant persons/ to confirm the work schedule
 - 1.3 Hazards are identified and reported to relevant person/s to assess risks and control measures implemented in accordance with workplace procedures
 - 1.4 Work is confirmed with relevant person/s in accordance with job requirements and workplace procedures
 - 1.5 Resources, equipment, tools, materials, drawings, notices and personal protective equipment (PPE) required for the work are identified, obtained and checked for correct operation and safety in accordance with workplace procedures and manufacturer instructions
 - 1.6 Responsibilities for work site safety and emergency response procedures for an incident at the work site are checked and confirmed with relevant person/s in accordance with workplace procedures
 - 1.7 Client issues are referred to relevant person/s in accordance with industry standards and workplace procedures
 - 1.8 Site preparation, safety plan and work schedule are confirmed with relevant person/s in accordance with workplace procedures
- 2 **Establish a utilities work site**
 - 2.1 WHS/OHS risk control measures, schedule of work and workplace procedures for carrying out work are followed
 - 2.2 Machines/plant/equipment are confirmed as being safe in accordance with WHS/OHS requirements and workplace procedures
 - 2.3 Relevant tools and equipment required for the work are selected and used correctly and safely in accordance with manufacturer instructions and workplace procedures
 - 2.4 Work is carried out to the required standard, without waste of materials or damage to equipment, the surrounding environment or services and using sustainable energy principles

	2.7	Unplanned events or conditions are referred to relevant person/s for instructions in accordance with workplace procedures
	2.8	Quality and safety checks of work are carried out in accordance with workplace procedures
3 Complete work and relevant documentation	3.1	WHS/OHS risk control measures for work completion are followed
	3.2	Work site is tidied and made safe in accordance with workplace procedures
	3.3	Tools, equipment and any surplus resources/materials are cleaned, checked and securely stored in accordance with workplace procedures
	3.4	Relevant person/s are notified of work completion in accordance with workplace procedures
	3.5	Work completion documentation is completed accurately and provided to relevant person/s in accordance with workplace procedures

Foundation Skills

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

Range of Conditions

Range is restricted to essential operating conditions and any other variables essential to the work environment.

Non-essential conditions may be found in the UEG Gas Industry Training Package Companion Volume Implementation Guide.

Unit Mapping Information

This unit replaces and is equivalent to UEGNSG134A Establish a utilities infrastructure work site.

Links

Companion Volume Implementation Guides are found in VETNet -
<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=6a6c032e-ffcb-4f3d-8063-415efbd261e8>

Assessment Requirements for UEGNSG134 Establish a utilities infrastructure work site

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 and performance criteria on at least two separate occasions and include:

- accessing and using site plans, safety plans, drawings and notices
- advising stakeholders of upcoming work
- applying relevant work health and safety (WHS)/occupational health and safety (OHS) requirements, including:
 - checking tools, equipment, machines, plant and personal protective equipment (PPE) for correct operation and safety
 - implementing control measures for identified hazards
 - maintaining a safe and clean work site
 - obtaining and applying relevant workplace procedures
 - working safely with hazardous materials and equipment
- applying sustainable energy and environmental principles and practices
- cleaning, checking and storing tools, equipment and surplus resources/materials
- communicating with relevant stakeholders
- completing work and relevant documentation
- dealing with unplanned events/situations in accordance with workplace procedures, in a manner that minimises risk to personnel and equipment
- determining a utilities work site
- following workplace procedures to identify, control and minimise the impact of an environmental incident
- interpreting and following instructions and workplace procedures, including obtaining and interpreting job requirements and work schedules.

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:

- effective communication techniques
- environmental and sustainable energy principles and practices, including techniques to

minimise waste

- relevant equipment, tools and machinery
- relevant industry standards, guidelines, codes of practice and regulations
- relevant manufacturer specifications
- relevant materials, notices, drawings, diagrams and resources
- relevant safe work method statements (SWMS)/job safety assessments or risk mitigation processes, including:
 - quality and safety checks
 - relevant PPE
 - relevant safety and environmental hazards and mitigation measures
- relevant WHS/OHS legislated requirements
- relevant workplace documentation
- relevant workplace policies and procedures
- site preparation, safety plans, job requirements and work schedules
- stakeholder communication
- storage requirements for equipment and tools
- techniques to check that machines, plant and equipment are safe, including pre-start checks.

Assessment Conditions

As a minimum, assessors must satisfy applicable regulatory requirements, which include requirements in the Standards for Registered Training Organisations current at the time of assessment.

As a minimum, assessment must satisfy applicable regulatory requirements, which include requirements in the Standards for Registered Training Organisations current at the time of assessment.

Assessment must occur in workplace operational situations where it is appropriate to do so; where this is not appropriate, assessment must occur in simulated workplace operational situations that replicate workplace conditions.

Assessment processes and techniques must be appropriate to the language, literacy and numeracy requirements of the work being performed and the needs of the candidate.

Resources for assessment must include access to:

- a range of relevant exercises, case studies and/or 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>

UEGNSG135 Monitor and control gas odourisation

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 operate odourisation equipment, monitor and control the odourisation of gas, and confirm odourant levels are maintained within acceptable range in accordance with relevant legislation, industry standards, codes of practice and workplace procedures.

It includes using appropriate tools, equipment and materials, ensuring relevant permits/authorisations are obtained, safely storing and handling required chemicals, operating gas odourisation equipment, monitoring gas odourisation and adjusting odourant levels, responding to spills and completing relevant documentation.

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

Pre-requisite Unit

Not applicable

Competency Field

Cross Discipline Units

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 monitor and control odourisation of gas

1.1 Work health and safety (WHS)/occupational health and safety (OHS) workplace procedures and environmental measures for the site are identified, obtained and applied

- 1.2 Job requirements and workplace procedures for the work are obtained and discussed with relevant person/s to confirm the work schedule
 - 1.3 Hazards are identified, WHS/OHS risks are assessed and control measures prioritised, implemented and monitored in accordance with workplace procedures
 - 1.4 Scope of work under the relevant work permit/notification is obtained and confirmed with relevant person/s in accordance with regulatory requirements and workplace procedures
 - 1.5 Materials, plans, diagrams, drawings and resources required for work are scheduled and obtained in accordance with workplace procedures
 - 1.6 Responsibilities for first aid and other emergency incidents at the work site are confirmed with relevant person/s in accordance with workplace procedures
 - 1.7 Relevant person/s are consulted to ensure the work is coordinated effectively with others in accordance with workplace procedures
 - 1.8 Person/s participating in gas odourisation are briefed and responsibilities confirmed in accordance with workplace procedures
 - 1.9 Site preparation, safety plan and work schedule are confirmed with relevant person/s in accordance with established procedures
- 2 Monitor and control odourisation of gas**
- 2.1 WHS/OHS risk control measures, schedule of work and workplace procedures for carrying out the work are followed
 - 2.2 Hazardous activities are conducted safely in accordance with job instructions, regulatory requirements and workplace procedures
 - 2.3 Gas odourisation equipment is operated and adjustments are made to odourant levels in accordance with workplace procedures
 - 2.4 Gas odourisation is monitored and controlled to the required standard without waste of materials or damage to the apparatus, circuits and the surrounding environment or services using sustainable energy

principles

	2.5	Odourant is handled and transported in accordance with regulatory requirements and workplace procedures and potential hazards and safety risks monitored and control measures implemented
	2.6	Unplanned events and non-routine problems are referred to authorised person/s for directions in accordance with workplace procedures
	2.7	Odourant spill response and waste management emergency shutdown procedures are applied in the event of an odourant spill in the workplace
	2.8	Quality and safety checks are conducted in accordance with industry standards and workplace procedures
3 Complete work and relevant documentation	3.1	Work site is cleaned up and made safe in accordance with workplace procedures
	3.2	Tools, equipment and any surplus resources and materials are cleaned, checked and securely stored in accordance with workplace procedures
	3.3	Relevant work permit/s are signed off and equipment returned to service in accordance with job and regulatory requirements and workplace procedures
	3.4	Relevant person/s are notified of the completion of the work in accordance with workplace procedures
	3.5	Work completion documentation is completed and provided to the appropriate person/s in accordance with workplace procedures

Foundation Skills

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

Range of Conditions

Range is restricted to essential operating conditions and any other variables essential to the work environment.

Non-essential conditions may be found in the UEG Gas Industry Training Package Companion Volume Implementation Guide.

Unit Mapping Information

This unit replaces and is equivalent to UEGNSG135A Monitor and control gas odourisation.

Links

Companion Volume Implementation Guides are found in VETNet -
<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=6a6c032e-ffcb-4f3d-8063-415efbd261e8>

Assessment Requirements for UEGNSG135 Monitor and control gas odourisation

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 and performance criteria on at least two separate occasions and include:

- applying emergency shutdown procedures
- applying odourant storage and handling procedures, including:
 - applying environmental and work health and safety (WHS)/occupational health and safety (OHS) legislation
 - interpret safety data sheets (SDS)
 - transport and handling requirements
 - spill and waste management procedures
 - odourant monitoring and control procedures
- applying problem-solving techniques
- applying relevant industry standards, guidelines, codes of practice and regulations
- applying relevant WHS/OHS requirements, including:
 - working safely with hazardous materials and equipment
 - hazard identification and reporting
 - implementing risk control measures
 - selecting and using correct personal protective equipment (PPE)
- applying sustainable energy and environmental principles and practices
- communicating with relevant person/s authorities and stakeholders
- completing work and relevant documentation
- conducting quality and safety checks
- dealing with unplanned events
- ensuring spill response procedures are in place
- following workplace procedures
- maintaining a clean work site
- monitoring and controlling odourisation of gas
- monitoring odourant levels
- obtaining and interpreting relevant technical drawings, plans, diagrams and drawings
- obtaining work authorisation and relevant permit/s

- preparing to monitor and control odourisation of gas
- using relevant gas detection equipment.

Knowledge Evidence

Evidence required to demonstrate competence in this unit must be relevant to and satisfy all of the requirements of the elements and performance criteria and include knowledge of:

- effective communication techniques
- gas odourisation
- hazardous activities, including:
 - emergency/spill response
 - lifting, climbing, working in confined spaces or aloft and use of power tools
- odourising chemicals, including:
 - SDS
 - storage, transporting and handling
 - WHS/OHS and environmental requirements
 - risk mitigation processes
 - spills
 - gas detection equipment
- odourisation shutdown requirements and procedures
- problem-solving techniques
- quality and safety checks
- required permits/authorisations
- relevant industry standards, guidelines, codes of practice and regulations
- relevant equipment and tools to monitor odourant levels
- relevant workplace documentation
- relevant workplace policies and procedures
- relevant stakeholders, including:
 - authorised person/s, authorities, plant operators and contractors
- relevant manufacturer specifications
- relevant safe work method statements (SWMS)/job safety assessments or risk mitigation processes
- relevant WHS/OHS legislated requirements, including:
 - applicable emergency procedures
 - hazards, risk assessment and control measures
 - environmental and sustainable energy principles and practices
 - hazard warnings and safety signs
 - hazardous materials
 - PPE
- relevant materials, plans, diagrams, drawings and resources
- site preparation, safety plans and work schedules.

Assessment Conditions

As a minimum, assessors must satisfy applicable regulatory requirements, which include requirements in the Standards for Registered Training Organisations current at the time of assessment.

As a minimum, assessment must satisfy applicable regulatory requirements, which include requirements in the Standards for Registered Training Organisations current at the time of assessment.

Assessment must occur in workplace operational situations where it is appropriate to do so; where this is not appropriate, assessment must occur in simulated workplace operational situations that replicate workplace conditions.

Assessment processes and techniques must be appropriate to the language, literacy and numeracy requirements of the work being performed and the needs of the candidate.

Resources for assessment must include access to:

- a range of relevant exercises, case studies and/or 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>

UEGNSG137 Operate and maintain gas station water bath heaters

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 operate and maintain gas station water bath heaters and associated equipment in accordance with relevant legislation, codes of practice, industry standards and regulations.

It includes operating and maintaining both gas fired and electric water bath heaters in trunk receiving stations (TRS) and pressure reduction stations.

This unit applies to the following the types of gas facilities, subject to work health and safety (WHS)/occupational health and safety (OHS) and duty of care requirements being met for the workplace:

- Trunk Receiving Station (TRS)
- Pressure Reduction Station

This unit is intended for non-electrical workers and electrical work is undertaken by a person with an unrestricted or restricted electrical licence.

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

Pre-requisite Unit

Not applicable.

Competency Field

Gas Cross Discipline

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 operate and maintain gas station water bath heaters

- 1.1** WHS/OHS workplace procedures and environmental risk control measures for the site are identified, evaluated and prioritised
- 1.2** Work schedules, plans, specifications and job instructions are obtained and interpreted to determine job requirements
- 1.3** Job requirements and workplace procedures for the work are obtained and discussed with relevant person/s to confirm the work schedule and respective responsibilities
- 1.4** WHS/OHS, environmental and sustainable energy policies and procedures are obtained and applied
- 1.5** Hazards and WHS/OHS risks are assessed and prioritised and control measures implemented and monitored in accordance with workplace procedures
- 1.6** Relevant work permit and/or notification is obtained to access, isolate/de-energise systems and perform the work in accordance with regulatory requirements and workplace procedures
- 1.7** Equipment, tools and personal protective equipment (PPE) required for the work are identified, scheduled, obtained and checked for correct operation and safety in accordance with workplace procedures
- 1.8** Appropriate person/s are consulted to ensure the work is coordinated effectively with others involved
- 1.9** Materials, manuals, plans, diagrams, drawings and resources required for work are confirmed, scheduled and obtained in accordance with workplace procedures
- 1.10** Responsibilities for first aid and other emergency incidents at the worksite are confirmed with relevant person/s in accordance with workplace procedures
- 1.11** Third party issues are referred to relevant person/s in accordance with workplace procedures
- 1.12** Site preparation, safety plan and work schedule are confirmed with relevant person/s in accordance with

- workplace procedures
- 2 Operate and maintain gas station water bath heater**
- 2.1** WHS/OHS risk control measures, schedule of work and workplace procedures for carrying out work are followed
- 2.2** Materials, tools, equipment and measuring devices required for the work are selected and used correctly and safely in accordance with manufacturer instructions and workplace procedures
- 2.3** Hazardous activities are conducted safely in accordance with job instructions, regulatory requirements and workplace procedures
- 2.4** Work is conducted to industry standards without waste of materials or damage to apparatus, circuits and the surrounding environment or services using sustainable energy principles
- 2.5** Hazard warnings and safety signs are recognised, hazards and WHS/OHS risks and incidents are assessed and reported to authorised person/s for directions in accordance with workplace procedures
- 2.6** Information on gas temperature, water levels and utility supply gas is collected, analysed and reported in accordance with workplace procedures
- 2.7** Maintenance of components is conducted in accordance with work schedule and workplace procedures
- 2.8** Water bath heater components are maintained and operated in accordance with workplace procedures
- 2.9** Faults and operational conditions of the components are identified, repaired/replaced, tested and reported in accordance with requirements and workplace procedures
- 2.10** Unplanned events and non-routine events are referred to authorised person/s for directions in accordance with workplace procedures
- 2.11** Quality and safety checks are carried out in accordance with industry standards, work instructions and workplace procedures
- 3 Complete work and relevant documentation**
- 3.1** WHS/OHS risk control measures and workplace procedures for work completion are followed

- 3.2 Work site is tidied and made safe in accordance with workplace and environmental procedures
- 3.3 Tools, equipment and any surplus resources and materials are cleaned and securely stored in accordance with workplace and environmental procedures
- 3.4 Appropriate person/s are notified of work completion in accordance with workplace procedures
- 3.5 Work completion documentation is completed and provided to appropriate person/s in accordance with workplace procedures

Foundation Skills

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

Range of Conditions

Range is restricted to essential operating conditions and any other variables essential to the work environment.

Non-essential conditions may be found in the UEG Gas Industry Training Package Companion Volume Implementation Guide.

Unit Mapping Information

This unit replaces and is equivalent to UEGNSG137A Operate and Maintain Gas Station Water Bath Heaters.

Links

Companion Volume Implementation Guides are found in VETNet -
<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=6a6c032e-ffcb-4f3d-8063-415efbd261e8>

Assessment Requirements for UEGNSG137 Operate and maintain gas station water bath heaters

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 and performance criteria on at least two separate occasions and include:

- 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:
 - emergency response procedures
 - maintaining a safe and clean workplace
 - working safely with hazardous materials and equipment
 - hazard identification and reporting
 - implementing risk control measures
- collecting, analysing and reporting on utility supply gas and temperature control systems
- completing required documentation and reporting
- conducting quality and safety checks
- dealing with unplanned events/situations in accordance with workplace procedures, in a manner that minimises risk to personnel and equipment
- fault-finding and troubleshooting water bath heater faults
- obtaining and interpreting relevant technical drawings, diagrams, schedules and manuals
- obtaining relevant work permits
- operating and maintaining gas station water bath heaters and components
- operating, adjusting/testing and fault-finding water bath heaters and components
- repairing and replacing water bath components
- selecting correct materials, equipment, tools, personal protection equipment (PPE) and measurement devices.

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:

- fault-finding and troubleshooting techniques to identify water bath heater faults
- gas fired and electric water bath heaters, including:
 - operation
 - components
 - skid layouts
- hazardous activities, including:
 - lifting, climbing, working in confined spaces and aloft, and use of power tools
- isolate and de-energise systems
- manufacturer specifications, manuals and procedures
- operating modes, including:
 - dual heater skid operation
 - automatic
 - manual
 - set point control
- relevant equipment, tools and measurement devices
- relevant industry standards, guidelines, codes of practice, legislation and regulations
- relevant safe work method statements (SWMS)/job safety assessments or risk mitigation processes
- relevant WHS/OHS legislated requirements, including:
 - hazards, risk assessment and control measures
 - environmental and sustainable energy principles and practices
 - using correct PPE
- relevant work permits
- relevant workplace policies and procedures
- reporting and documentation requirements
- routine inspection requirements
- technical plans, diagrams and drawings
- temperature control systems
- water bath heater maintenance and operation
- water levels and utility supply.

Assessment Conditions

As a minimum, assessors must satisfy applicable regulatory requirements, which include requirements in the Standards for Registered Training Organisations current at the time of assessment.

As a minimum, assessment must satisfy applicable regulatory requirements, which include requirements in the Standards for Registered Training Organisations current at the time of assessment.

Assessment must occur in workplace operational situations where it is appropriate to do so; where this is not appropriate, assessment must occur in simulated workplace operational

situations that replicate workplace conditions.

Assessment processes and techniques must be appropriate to the language, literacy and numeracy requirements of the work being performed and the needs of the candidate.

Resources for assessment must include access to:

- a range of relevant exercises, case studies and/or 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>

UEGNSG139 Repair and maintain stationary gas fuelled turbine engines

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 isolate, disconnect, repair, reconnect and maintain stationary gas fuelled turbine engines up to a capacity of 5 gigajoule per hour (GJ/hr) (1,300 kilowatt).

It includes disconnecting, carrying out repairs and replacing fuel train components to stationary gas fuelled turbine engine. Reconnecting the gas fuelled turbine engine includes pre-start tests, start up, adjusting components and controls to safe and efficient operation, and completing all required documentation.

This unit does not cover:

- repairs to the internal mechanical components of the engine
- modifications to gas fuelled turbine engine.

Note: 500 kw equates to a gas input of approximately 6 GJ/hr.

The application of the skills and knowledge described in this unit may require a license or permit to practice in the workplace.

Other conditions may apply under state and territory legislative and regulatory licencing requirements which must be confirmed prior to commencing this unit.

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

Pre-requisite Unit

Not applicable.

Competency Field

Cross Discipline Units

Unit Sector

Gas Industry

Elements and Performance Criteria

ELEMENTS

Elements describe the essential outcomes.

1 Prepare to repair and maintain gas fuelled turbine engine

PERFORMANCE CRITERIA

Performance criteria describe the performance needed to demonstrate achievement of the element.

- 1.1** Work health and safety (WHS)/occupational health and safety (OHS) workplace procedures for a given work area are identified, obtained and applied
- 1.2** Hazards are identified, risks are assessed and existing risk control measures and workplace procedures are implemented in preparation for work
- 1.3** Safety hazards that have not previously been identified are noted on job safety assessments and existing risk control measures are implemented
- 1.4** Formal authority to proceed with repair and maintenance is obtained before commencing work in accordance with regulatory and code of practice requirements
- 1.5** Repair and maintenance plans are prepared in consultation with person/s affected by work activity and sequenced appropriately
- 1.6** Scope, nature and location of work activity is determined from documentation or relevant person/s
- 1.7** Gas fuelled turbine engine plant, equipment and component specifications and manufacturer manuals are obtained for planned work activity
- 1.8** Material needed for the gas fuelled turbine engine repair and maintenance work is obtained in accordance with workplace procedures and checked against job requirements
- 1.9** Tools, equipment, personal protective equipment (PPE) and testing devices needed to for the repair and maintenance work are obtained in accordance with workplace procedures and checked for correct operation and safety
- 1.10** Preparatory work is checked to ensure no damage has occurred and complies with job requirements

2 Repair and maintain gas fuelled turbine engine

- 2.1** WHS/OHS risk control measures and workplace procedures for carrying out work activities are followed
- 2.2** Relevant gas regulatory and codes of practice, and recording and reporting requirements are satisfied at appropriate times throughout the work sequence
- 2.3** Gas and electrical circuits/machines/plant are isolated and safe in accordance with authority, WHS/OHS requirements and workplace procedures before work is commenced
- 2.4** Nature and possible cause of faults or out-of-specification performance are identified from defect reports or operational records
- 2.5** Fault-finding gas fuelled turbine engine is approached methodically using observation, measurement, calculations and comparison with normal system and component parameters/values
- 2.6** Faults beyond the scope of gas fuel train, ignition or fume exhaust work are identified and arrangements are made for appropriately competent and authorised person to rectify fault/s
- 2.7** Engine is disconnected to carry out maintenance and repairs, as required, in accordance with gas authority and WHS/OHS requirements and workplace procedures
- 2.8** Components are removed/dismantled and parts stored to protect them against loss or damage, as required
- 2.9** Faulty components are rechecked and their fault status confirmed
- 2.10** Gas fuelled turbine engine materials required to rectify faults are sourced and obtained in accordance with workplace procedures
- 2.11** Repair and maintenance work is carried out efficiently, without unnecessary waste of materials or damage to apparatus, circuits, and the surrounding environment or services using sustainable energy principles
- 2.12** Effectiveness of the repair is inspected and tested in accordance with workplace procedures
- 2.13** System is reassembled, reconnected and finally

inspected and tested to ensure it is operating safely, effectively and complies with relevant industry standards and job requirements

- 2.14** Unplanned situations are responded to in accordance with workplace procedures, in a manner that minimises risk to personnel and equipment safely and with the approval of an authorised person

3 Complete and report repair and maintenance

- 3.1** WHS/OHS work completion risk control measures and workplace procedures are followed
- 3.2** Check of the gas fuelled turbine engine is made to verify compliance with job requirements, certification required by relevant gas authorities and industry standards
- 3.3** Work area is cleared and materials disposed of or recycled in accordance with relevant legislation and workplace procedures
- 3.4** Tools and equipment are cleaned, checked, serviced and stored in accordance with manufacturer recommendations and workplace procedures
- 3.5** Work site is cleaned and made safe in accordance with workplace procedures
- 3.6** Maintenance and repair work is documented and appropriate person/s notified in accordance with workplace procedures

Foundation Skills

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

Range of Conditions

Range is restricted to essential operating conditions and any other variables essential to the work environment.

Non-essential conditions may be found in the UEG Gas Industry Companion Volume Implementation Guide.

repairing and maintaining stationary gas fuelled turbine engine up to a capacity of 5 GJ/hr (1300kw), must include each of the following:

- gas fuel train pipe-work, regulators, valves, metering and protective devices from gas pipeline to the engine.
- flue/exhaust system

repairing and maintaining of stationary gas fuelled turbine engine must not include the following:

- pressure testing and purging gas fuel train
- disconnecting and reconnecting gas fuelled turbine engines, and adjusting components and controls to safe and efficient operation
- repairs to the internal mechanical components of the engine
- modifications to gas fuelled turbine engine

gas fuels must include one (1) of the following:

- natural gas
- liquified petroleum gas (LPG)
- synthetic natural gas (SNG)
- bio-gas
- waste gas or sewage gas

used as a single gas fuel or part of a dual fuel system

Unit Mapping Information

This unit replaces and is equivalent to UEGNSG139A Repair and maintain stationary gas fuelled turbine engines.

Links

Companion Volume Implementation Guides are found in VETNet -

<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=6a6c032e-ffcb-4f3d-8063-415efbd261e8>

Assessment Requirements for UEGNSG139 Repair and maintain stationary gas fuelled turbine engines

Modification History

Release 1: This is the first release of this unit of competency in the UEG Gas Industry Training Package.

Performance Evidence

- applying relevant work health and safety (WHS)/occupational health and safety (OHS) requirements, including:
 - applying workplace procedures and practices
 - using of risk control measures
- applying sustainable energy principles and practices
- documenting and reporting 'as-installed' plant and equipment components, pipe-work, flue/exhaust systems and accessories
- dealing effectively with unplanned events in accordance with workplace procedures, in a manner that minimises risk to personnel and equipment
- repairing and maintaining gas fuelled turbine engines up to a capacity of 5 gigajoule per hour (GJ/hr) (1,300 kilowatt), including:
 - disconnecting engine
 - conducting maintenance
 - finding faults
 - rectifying faults without damage
 - reconnecting
 - providing written reports on work undertaken.

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:

- authority to proceed requirements, including:
 - regulatory requirements (scope and restrictions)
 - relevant industry standards and codes of practice
 - required documentation and submissions
- compliance requirements, including design specification, regulations, codes of practice, industry standards and manufacturer specifications back to commissioned settings

- disconnect requirements, workplace procedures and manufacturers specifications
- exhaust/flue requirements
- fault-finding techniques including:
 - taking readings and gathering information
 - symptoms and possible faults
 - logical fault diagnosis sequence and flow charts
 - manufacturer fault diagnosis tables
 - confirming actual fault
- fuel train requirements, including pipe-work and connections, valves, metering devices, regulating valves and electrical controls
- gas fuel types, properties and applications
- gas fuelled turbine engine overview, including types, major components, operating principles, manufacture specifications and diagrams
- location/site ventilation requirements, including environment, piping requirements for gas fuel train pipe-work and suitable equipment/equipment plant locations
- reconnection requirements and workplace procedures, including:
 - manufacturer specifications and procedures
 - inspection of the installed engine, pipe-work, components and accessories
 - pressure testing and purging
 - testing engine operation first without and then with fuel
 - testing and adjusting regulator, operation and safety controls
 - exhaust gases analysis
- relevant stationary gas fuelled turbine engines design manufacturer specifications
- relevant safe work method statements (SWMS)/job safety assessments or risk mitigation processes, including:
 - hazardous area requirements
 - safe working practices
 - site safety
- relevant WHS/OHS legislated requirements
- relevant workplace documentation and reports, including:
 - 'as-installed' plant and equipment components, pipe-work, flue/exhaust systems and accessories
- relevant workplace policies and procedures
- repair and maintenance gas fuelled turbine engines up to a capacity 5 GJ/hr (1,300 kilowatt) requirements, including:
 - gas train pipe-work and components
 - exhaust/flue system
 - ventilation system
 - oil change
 - oil and air filter replacement.

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 suitable workplace operational situations where it is appropriate to do so; where this is not appropriate, assessment must occur in suitable 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, facilities, equipment and personal protective (PPE) equipment currently used in industry
- resources used should reflect current industry practices for repair and maintenance of stationary gas fuelled turbine engines
- 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>

UEGNSG140 Apply environmental policies and procedures in the utilities industry

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 apply environmental policies and workplace procedures whilst undertaking tasks in a utilities industry workplace.

It includes the requirements for applying relevant legislation, industry standards, regulations and codes of practice and their application to relevant workplace procedures, and completing relevant documentation.

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

Pre-requisite Unit

Not applicable.

Competency Field

Cross Discipline Units

Unit Sector

Gas Industry

Elements and Performance Criteria

ELEMENTS

Elements describe the essential outcomes.

1 Identify environmental policies and workplace procedures

PERFORMANCE CRITERIA

Performance criteria describe the performance needed to demonstrate achievement of the element.

1.1 Work instructions and work health and safety (WHS)/occupational health and safety (OHS) workplace procedures for the utility workplace are obtained, and applied

	1.2 Job requirements and workplace procedures are obtained and discussed with relevant person/s to confirm the work schedule 1.3 Environmental and WHS/OHS policies, workplace procedures and requirements for work activities to be performed are obtained and confirmed with relevant person/s 1.4 Environmental and WHS/OHS hazards are identified and reported to relevant person/s to assess risks and implement control measures in accordance with workplace procedures 1.5 Resources, including environmental protection equipment required for work, are obtained and checked for correct operation and safety in accordance with workplace procedures and manufacturer instructions 1.6 Workplace preparation, safety plan and work schedule are confirmed with relevant person/s in accordance with workplace procedures
2 Apply environmental policies and workplace procedures	2.1 WHS/OHS risk control measures, schedule of work and workplace procedures for carrying out work are followed 2.2 Environmental policies and procedures are applied and control measures included in the work process 2.3 Materials, tools and equipment required for the work are selected and used correctly and safely in accordance with manufacturer instructions and workplace procedures 2.4 Any environmental incidents, accidents and potential problems are immediately reported to relevant person/s and dealt with in accordance with workplace procedures and legislative requirements 2.5 Quality and safety checks of work are carried out in accordance with work instructions
3 Complete work and relevant documentation	3.1 WHS/OHS risk control measures for work completion are followed 3.2 Workplace is tidied and made safe in accordance with workplace procedures

- 3.3 Tools, equipment, vehicles, plant and any surplus resources/materials are cleaned, checked and securely stored in accordance with workplace procedures
- 3.4 Relevant persons are notified of work completion in accordance with workplace procedures
- 3.5 Waste is disposed of as required in accordance with environmental policies and workplace procedures
- 3.6 Relevant environmental records, report forms/data sheets are completed in accordance with workplace procedures

Foundation Skills

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

Range of Conditions

Range is restricted to essential operating conditions and any other variables essential to the work environment.

Non-essential conditions may be found in the UEG Gas Industry Training Package Companion Volume Implementation Guide.

applying environmental policies and procedures must be demonstrated in at least one (1) of the following sites:

- above ground level sites
- below ground level sites
- easements
- public sites, requiring pedestrian and traffic control
- private sites

Unit Mapping Information

This unit replaces and is equivalent to UEGNSG140A Apply environmental policies and procedures in the utilities industry.

Links

Companion Volume Implementation Guides are found in VETNet - <https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=6a6c032e-ffcb-4f3d-8063-415efbd261e8>

Assessment Requirements for UEGNSG140 Apply environmental policies and procedures in the utilities industry

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 control measure procedures, including:
 - installation of sediment and erosion control measures in accordance with legislative or best practice requirements
 - weed spread mitigation
 - chemical management controls (safety data sheets (SDS), storage, labelling and bunding)
 - noise control techniques and work hour limitations
 - air emission control measures
 - waste management principles (recycling)
 - hazardous waste management
 - water management requirements (works near waterways)
 - vegetation management requirements
 - fauna protection
 - heritage management techniques
 - community consultation requirements
 - rehabilitation requirements
- applying relevant environmental and work health and safety (WHS)/occupational health and safety (OHS) requirements
- completing work and relevant documentation
- dealing with unplanned events/situations in accordance with workplace procedures in a manner that minimises risk to personnel and equipment
- applying environmental incident review procedures, including:
 - environmental incident review
 - incident reporting and notification
 - incident investigation
 - recommendations to prevent reoccurrence
- identifying potential environmental hazards
- identifying environmental aspects and potential or actual impacts.

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:

- causes of environmental damage/incidents/accidents and problems, including:
 - chemicals
 - oil
 - water contamination
 - carcinogenic agents
 - gases
 - dusts
 - vehicles
 - plant
 - equipment
 - waste contamination and noise
 - poor planning and work practices and procedures
- employee and employer responsibilities under relevant environmental legislation, regulations, codes and workplace procedures
- environmental hazards, risk assessment, control measures and incident responses
- environmental protection equipment
- environmental protection procedures, records, inspections/audit and incident reporting
- relevant environmental legislation, regulations, standards, acts and codes of practice
- role of regulatory bodies in monitoring environmental activities, risk and incident compliance
- relevant workplace policies and procedures, including:
 - use of plant/machinery/equipment/tools/vehicles
 - cleaning materials and aids
 - spill response equipment
 - sediment erosion control equipment
 - waste disposal
 - emission control and sampling equipment
- environmental incident review procedures, including:
 - environmental incident review
 - incident reporting and notification
 - incident investigation
 - recommendations to prevent reoccurrence
- relevant WHS/OHS legislated requirements
- relevant workplace documentation, records, reports and data sheets
- risk mitigation processes
- sustainable energy principles and practices.

Assessment Conditions

As a minimum, assessors must satisfy applicable regulatory requirements, which include requirements in the Standards for Registered Training Organisations current at the time of assessment.

As a minimum, assessment must satisfy applicable regulatory requirements, which include requirements in the Standards for Registered Training Organisations current at the time of assessment.

Assessment 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 personal protective equipment (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>

UEGNSG141 Apply workplace health and safety regulations, codes and practices in the gas supply industry

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 apply work health and safety (WHS)/occupational health and safety (OHS) regulations, codes and practices in the workplace; prepare to enter a work area; apply safe working practices; and follow workplace procedures for hazard identification and risk control.

It includes responsibilities and application at operative levels for health and safety, risk management and adherence to safety practices in the gas supply industry.

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

Pre-requisite Unit

Not applicable.

Competency Field

Cross Discipline

Unit Sector

Gas Industry

Elements and Performance Criteria

ELEMENTS

Elements describe the essential outcomes.

1 Prepare to enter a work area

PERFORMANCE CRITERIA

Performance criteria describe the performance needed to demonstrate achievement of the element.

- 1.1** Work area access permits, clearances and isolation permissions are obtained as required from relevant person/s in accordance with workplace procedures

	1.2	Relevant workplace WHS/OHS safety legislation and codes of practices are identified and applied when entering the work area
	1.3	Safe work methods for controlling risks are obtained and applied prior to undertaking work activity in accordance with WHS/OHS workplace procedures
	1.4	Preparations for the isolation of plant/machinery and equipment are carried out to prevent creation of hazards from loss of machine, system or process control in accordance with workplace procedures
	1.5	Tools and equipment required for the work are checked for safety and correct functionality in accordance with workplace procedures and regulatory requirements
2	Apply safe working practices	
	2.1	WHS/OHS risk control measures and workplace procedures are followed
	2.2	WHS/OHS procedures for workplace emergencies, accidents and fires are followed in accordance with scope of responsibility and capability
3	Follow workplace procedures for hazard identification and risk control	
	3.1	Hazards are identified and control measures implemented and monitored through regular and active participation in the consultation process with employer and other employees
	3.2	Unplanned events and newly identified hazards in the work area are reported to relevant person/s in accordance with workplace procedures
	3.3	WHS/OHS documentation, including incident records, are completed in accordance with regulatory requirements and workplace procedures
	3.4	WHS/OHS training and directives are followed in accordance with regulatory requirements 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 Volume Implementation Guide.

Unit Mapping Information

This unit replaces and is equivalent to UEGNSG141A Apply Workplace Health and Safety regulations, codes and practices in the gas supply industry.

Links

Companion Volume Implementation Guides are found in VETNet -
<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=6a6c032e-ffcb-4f3d-8063-415efbd261e8>

Assessment Requirements for UEGNSG141 Apply workplace health and safety regulations, codes and practices in the gas supply industry

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 and performance criteria on at least two separate occasions and include:

- applying relevant work health and safety (WHS)/occupational health and safety (OHS) requirements
 - applying safe working practices
 - applying WHS/OHS regulations and codes of practices in the workplace
 - checking tools and equipment for safety and correct operation
 - isolating plant/machinery/equipment
- completing relevant workplace documentation
- dealing with unplanned events/situations in accordance with workplace procedures, in a manner that minimises risk to personnel and equipment
- dealing with workplace accidents, emergencies and fires within scope of responsibility
- following and applying work procedures and instructions as they apply to risk control measures
- identifying hazards and implementing and monitoring control measures
- obtaining applicable work permits, clearances and isolation permissions prior to entering the work area
- participating regularly in consultation processes
- preparing to enter a gas supply work area in accordance with workplace procedures
- reporting hazards to relevant person/s in accordance with 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:

- appropriate fire extinguisher for a given type of fire and its use
- commonly used workplace safety signs
- hierarchy of WHS/OHS hazard control measures
- hazards associated with gas supply work environments

- WHS/OHS legal requirements in the workplace, including:
 - relevant legislation relating to WHS/OHS
 - employer and employee responsibilities, rights and obligations
- procedures used to control risks
- principles of risk assessment
- safe manual handling principles
- workplace emergencies that pose a threat to health and safety and suitable procedures for an emergency workplace evacuation
- chemicals in the workplace, including:
 - hazardous substances and dangerous goods
 - safe storage procedures and purpose and interpretation of safety data sheet (SDS)
 - types and classes: fuelled, flammable and other relevant gases
 - effects of gases on the human body
 - common causes of gas accidents and ignition
 - products of (complete and incomplete) combustion
 - precautions that can minimise the chance of gas accidents and ignition
 - requirements for working with gases
 - fire protection and control/extinguishing
- hazardous areas, including:
 - hazards associated with working in a hazardous area
 - workplace situations that could be classified as a hazardous area
 - requirements for working in a designated hazardous area
- potential physical and psychological hazards in the workplace
- relevant industry standards, legislation, guidelines, codes of practice and regulations
- relevant manufacturer specifications
- relevant safe work method statements (SWMS)/job safety assessments or risk mitigation processes
- relevant WHS/OHS legislated requirements
- relevant work area access, clearances and isolation permissions/permits
- relevant workplace documentation
- relevant workplace policies and procedures
- techniques to check tools and equipment for safety and correct functionality
- techniques to monitor implemented control measures
- working safely with electricity
- working safely with gases.

Assessment Conditions

As a minimum, assessors must satisfy applicable regulatory requirements, which include requirements in the Standards for Registered Training Organisations current at the time of assessment.

As a minimum, assessment must satisfy applicable regulatory requirements, which include requirements in the Standards for Registered Training Organisations current at the time of assessment.

Assessment must occur in workplace operational situations where it is appropriate to do so; where this is not appropriate, assessment must occur in simulated workplace operational situations that replicate workplace conditions.

Assessment processes and techniques must be appropriate to the language, literacy and numeracy requirements of the work being performed and the needs of the candidate.

Resources for assessment must include access to:

- a range of relevant exercises, case studies and/or other simulations
- relevant and appropriate materials, tools, equipment and personal protective equipment (PPE) currently used in industry
- applicable documentation, including workplace procedures, equipment specifications, regulations, codes of practice and operation manuals.
- relevant WHS/OHS legislation, regulations and codes of practice related to hazards present in the gas supply industry workplace
- accepted industry work procedures and the specific safety procedures and work instructions for a particular workplace in the gas supply industry.

Links

Companion Volume Implementation Guides are found in VETNet -
<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=6a6c032e-ffcb-4f3d-8063-415efbd261e8>

UEGNSG142 Conduct isolations under the permit to work system for gas industry work sites

Modification History

Release 2: This is the second release of this unit of competency in the UEG Gas Industry Training Package.

- Minor typographic error corrected in Pre-requisite Unit code.

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 plan and conduct isolation, de-isolation and restoration under the permit to work system for a gas industry work site in accordance with relevant legislation, industry standards, codes of practice and workplace procedures.

It includes conducting energy source isolation, de-isolation and restoration under permit to work system for a gas industry work site and completing relevant documentation.

The application of the skills and knowledge described in this unit may require a license or permit to practice in the workplace.

Other conditions may apply under state and territory legislative and regulatory licencing requirements which must be confirmed prior to commencing this unit.

Pre-requisite Unit

MSMWHS217 Gas test atmospheres

Competency Field

Gas Cross Discipline

Unit Sector

Gas Industry

Elements and Performance Criteria

ELEMENTS

PERFORMANCE CRITERIA

Elements describe the essential Performance criteria describe the performance needed to

outcomes.

demonstrate achievement of the element.

- 1 Prepare for isolation work**
- 1.1** Work health and safety (WHS)/occupational health and safety (OHS), environmental and sustainable energy policies, and workplace procedures for the work site are identified, obtained and applied
 - 1.2** Plans, specifications and instructions are obtained and interpreted to determine job requirements
 - 1.3** Job requirements and workplace procedures for the work are discussed with relevant person/s to confirm the work schedule and respective responsibilities
 - 1.4** Hazards are identified, WHS/OHS risks are assessed and control measures are prioritised, implemented and monitored in accordance with workplace procedures
 - 1.5** Responsibilities under the relevant work permit/notification is obtained and confirmed to access, isolate/de-isolate systems and perform the work in accordance with regulatory requirements and workplace procedures
 - 1.6** Energy source isolation points are identified and communicated to the work party in accordance with requirements and workplace procedures
 - 1.7** Person/s and equipment, tools and personal protective equipment (PPE) required for the work are identified, coordinated, scheduled, obtained and checked for correct operation and safety in accordance with workplace procedures
 - 1.8** Resources, including persons and equipment required, are identified, scheduled, coordinated and confirmed
 - 1.9** Appropriate person/s are consulted to ensure the work is coordinated effectively with others involved
 - 1.10** Third-party issues, including low voltage electrical work, are referred to relevant person/s in accordance with workplace procedures
 - 1.11** Persons participating in the work, including plant operators and contractors, are briefed and responsibilities coordinated and authorised by permits to work, as required, in accordance with workplace procedures

	1.12	Site preparation, safety plan and the work schedule are confirmed in accordance with workplace procedures
2 Conduct energy source isolation	2.1	WHS/OHS, risk control measures, schedule of work and workplace procedures for carrying out the work are followed
	2.2	Materials, tools, equipment, personal protective equipment (PPE) and measuring devices required for the isolation are selected and used correctly and safely in accordance with manufacturer instructions
	2.3	Work is carried out to industry standards without waste of materials or damage to apparatus, circuits and the surrounding environment or services using sustainable energy principles
	2.4	Hazard warnings and safety signs are recognised and WHS/OHS risks and incidents reported to authorised person/s for directions in accordance with workplace procedures
	2.5	Energy source isolation is completed, tagged, locked out and documented on work permit in accordance with workplace procedures and job requirements
	2.6	Unplanned events and non-routine problems encountered when conducting isolations are identified and actioned in accordance with requirements and workplace procedures
	2.7	Quality and safety checks of the work are undertaken in accordance with industry standards and workplace procedures
3 Conduct de-isolation and restoration	3.1	WHS/OHS risk control measures and workplace procedures for completing the work are followed
	3.2	De-isolation and restoration is performed, tags removed and results recorded in accordance with workplace procedures
	3.3	Tools, equipment and any surplus resources and materials are cleaned, checked and securely stored in accordance with workplace procedures
	3.4	De-isolations are confirmed with other person/s involved in, or affected by, the work in accordance with workplace procedures

- 3.5 Work completion documentation, including relevant permits, are completed accurately and provided to appropriate person/s in accordance with workplace procedures

Foundation Skills

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

Range of Conditions

Range is restricted to essential operating conditions and any other variables essential to the work environment.

Non-essential conditions may be found in the UEG Gas Industry Training Package Companion Volume Implementation Guide.

Unit Mapping Information

This unit replaces and is equivalent to UEGNSG142A Conduct isolations under the permit to work system for gas industry work sites.

Links

Companion Volume Implementation Guides are found in VETNet - <https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=6a6c032e-ffcb-4f3d-8063-415efbd261e8>

Assessment Requirements for UEGNSG142 Conduct isolations under the permit to work system for gas industry work sites

Modification History

Release 2: This is the second release of this unit of competency in the UEG Gas Industry Training Package.

- Minor typographic error corrected in Pre-requisite Unit code.

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 and performance criteria on at least two separate occasions and include:

- applying communication skills, including conducting briefings
- applying problem-solving skills
- applying relevant industry standards, guidelines, codes of practice, legislation and regulations
- applying relevant work health and safety (WHS)/occupational health and safety (OHS) requirements, including:
 - applying sustainable energy and environmental principles and practices
 - enterprise safety procedures, site safety and emergency procedures
 - risk management
 - selecting and using correct personal protective equipment (PPE)
 - WHS/OHS legislation
- conducting de-isolation and restoration, including conducting risk assessment for isolation type
- conducting energy sources isolation in accordance with workplace procedures, including stopping plant, applying appropriately isolation/lock and tag, and dissipating any stored energy
- conducting quality and safety checks, including inspecting and tagging
- dealing with unplanned events/situations in accordance with workplace procedures in a manner that minimises risk to personnel and equipment
- documenting any remaining points of isolation and documenting tagging and locking out identified isolation points
- following relevant workplace procedures
- identifying isolation points
- isolating a range of energy sources, including:
 - gas
 - electricity

- pneumatics
- mechanical energy
- planning for isolation work, including isolating required forms of potentially hazardous energy, to ensure that an accidental release of hazardous energy does not occur.

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:

- de-isolation at the end of each work task, including job requirements and workplace procedures, and documenting any remaining points of isolation
- isolation requirements and workplace procedures, including:
 - communication with the relevant stakeholders
 - document, tag and lock-out identified isolation points
 - isolation energy sources, including gas, electricity, pneumatics and mechanical energy
 - isolation methods, including valves, circuit breakers, pneumatics and utility gas
 - points of isolations to ensure a safe work area
 - test and tagging requirements
- permit to work requirements and workplace procedures
- problem-solving techniques
- relevant gas industry worksite isolation legislation, industry standards, codes of practice and regulations
- relevant manufacturer specifications
- relevant workplace documentation
- relevant workplace policies and procedures
- relevant WHS/OHS legislated requirements, including:
 - risk assessment for isolation type
 - environmental and sustainable energy principles and practices
 - hazards, risk assessments and control measures
 - risk management
 - safe systems of work
 - safety procedures, site safety and emergency 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 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>

UEGNSG200 Conduct butt fusion of large diameter polyethylene gas pipeline systems

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 butt fuse large diameter polyethylene gas pipeline systems.

It includes preparing to weld polyethylene pipe, handling, jointing, constructing and welding polyethylene gas distribution mains. It also includes gas distribution, gathering lines, secondary mains (high pressure) and gas transmission line work and completing relevant documentation.

This unit applies to large polyethylene pipe diameter greater than 180 mm.

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

Pre-requisite Unit

Not applicable.

Competency Field

Gas Distribution

Unit Sector

Gas Industry

Elements and Performance Criteria

ELEMENTS

Elements describe the essential outcomes.

1 Prepare to weld polyethylene pipe

PERFORMANCE CRITERIA

Performance criteria describe the performance needed to demonstrate achievement of the element.

1.1 Job requirements and workplace procedures for the site are discussed with relevant persons

1.2 Work health and safety (WHS)/occupational health and

- safety (OHS) workplace procedures and environmental and sustainable measures for the site are identified, obtained and applied
- 1.3** Scope of work and responsibilities are confirmed with relevant persons in accordance with job requirements and workplace procedures
- 1.4** Pre-start test weld sample is prepared in accordance with workplace procedures
- 2 Confirm pipe handling and jointing of polyethylene pipe**
- 2.1** Pipe and materials hazards are identified, risks assessed and control measures prioritised, implemented and monitored in accordance with workplace procedures
- 2.2** Equipment, tools and personal protective equipment (PPE) required to carry out the work are identified, obtained and checked for correct operation and safety in accordance with workplace procedures
- 2.3** Relevant person/s are consulted to ensure the work is coordinated effectively with others involved
- 2.4** Materials, plans, diagrams, drawings and resources required to weld and lay polyethylene gas distribution mains are confirmed, scheduled and obtained in accordance with workplace procedures
- 2.5** Unsuitable or damaged materials including improperly stored materials are rejected/rectified and reported in accordance with workplace procedures
- 2.6** Safety and emergency response procedures and responsibilities for an incident are checked and confirmed with relevant person/s
- 2.7** Site preparation, safety plan, traffic management plan and work schedule are confirmed with relevant person/s in accordance with workplace procedures
- 3 Construct and weld polyethylene gas distribution mains**
- 3.1** WHS/OHS and environmental risk control measures, schedule of work and workplace procedures for carrying out work are monitored and followed
- 3.2** Materials, tools, equipment and measuring devices required for the work are selected and used correctly and safely in accordance with manufacturer instructions and workplace procedures

- 3.3 Hazardous activities are conducted safely in accordance with WHS/OHS workplace procedures and job requirements
 - 3.4 Welding and laying of polyethylene gas distribution mains are conducted in accordance with relevant industry standards and workplace procedures
 - 3.5 Materials are prepared, aligned, constrained and jointed in accordance with relevant industry standards and workplace procedures without waste
 - 3.6 Unplanned incidents/events are referred to relevant persons for directions in accordance with workplace procedures
 - 3.7 Welds and safety checks of work and testing of pipework is carried out in accordance with industry standards, work instructions and workplace procedures
- 4 **Complete work and relevant documentation**
 - 4.1 WHS/OHS and environmental risk control measures for work completion are followed
 - 4.2 Work site is rehabilitated, cleaned up and made safe in accordance with workplace procedures
 - 4.3 Tools, equipment and any surplus resources and materials are cleaned, checked and securely stored in accordance with workplace procedures
 - 4.4 Relevant person/s are notified of work completion in accordance with workplace procedures
 - 4.5 Relevant documentation is completed and provided to appropriate person/s in accordance with workplace procedures

Foundation Skills

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

Range of Conditions

Range is restricted to essential operating conditions and any other variables essential to the work environment.

Non-essential conditions may be found in the UEG Gas Industry Training Package Companion

Volume Implementation Guide.

Unit Mapping Information

This is a new unit.

Links

Companion Volume Implementation Guides are found in VETNet -
<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=6a6c032e-ffcb-4f3d-8063-415efbd261e8>

Assessment Requirements for UEGNSG200 Conduct butt fusion of large diameter polyethylene gas pipeline systems

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 and performance criteria on at least two separate occasions and include:

- applying equipment material handling procedures in accordance with workplace procedures
- applying relevant industry standards, guidelines, codes of practice and regulations including pre-start test weld
- applying relevant work health and safety (WHS)/occupational health and safety (OHS) workplace procedures including applying risk control measures for stray, static and electrical faults
- applying sustainable energy and environmental principles and practices
- assembling, joining and laying polyethylene gas distribution mains in accordance with workplace procedures
- assessing pipework prior to welding and post weld in accordance with weld specifications
- assessing real time weather and site conditions controls including high wind, secondary cleaning processes and control measures
- checking tools, equipment, plant and personal protection equipment (PPE) for correct operation and safety including ensuring equipment is in calibration dates in accordance with workplace procedures or manufacturer specifications
- cleaning, checking and storing tools and equipment
- communicating effectively with others
- completing required documentation and reporting
- conducting visual weld inspection, quality and safety checks in accordance with weld specifications
- dealing with unplanned events/situations in accordance with workplace procedures in a manner that minimises risk to personnel and equipment
- identifying and correctly reading plans, drawings, manuals and diagrams
- installing large diameter polyethylene butt fused system on gas distribution mains including:
 - calculating butt welding parameters
 - checking generator specifications to welder requirements and associated equipment rating
 - selection of materials and capabilities
- preparing the weld site and specific environment in accordance with safe work method statement, job specification, work instruction or project requirements

- rehabilitating and maintaining a clean work area
- reporting and rejecting unsuitable or damaged materials in accordance with workplace procedures
- selecting correct materials, equipment, tools, personal protection equipment and measurement devices
- undertaking at least two joints; one joint pre-start test weld joint in accordance with relevant industry standards and job specification, at least one of the joints must be completed with fully automated butt fusion equipment.

Knowledge Evidence

Evidence required to demonstrate competence in this unit must be relevant to and satisfy all of the requirements of the elements and performance criteria and include knowledge of:

- conditions for direct installation and insertion of polyethylene pipeline
- construction of polyethylene pipelines
- effective communication techniques
- environmental and sustainable energy principles and practices
- installation, inspection and testing of polyethylene pipelines
- jointing procedures, methods and calculations
- material compatibility including material thicknesses and types
- polyethylene gas pipelines types, characteristics and components
- problem-solving techniques
- relevant industry standards, legislation, regulations and codes of practice
- relevant manufacturer specifications
- relevant materials, plans, diagrams, drawings and resources
- relevant materials, tools, equipment, plant, measuring devices and PPE
- relevant WHS/OHS legislated requirements, including:
 - hazards, risk assessment and control measures
 - hazards of working with gas
 - hazardous activities, including the use of power tools, lifting, manual handling, climbing, and working in restricted space, excavations and trenches
 - relevant safe work method statements (SWMS)/job safety assessments or risk mitigation processes includes electrostatic hazards and risk mitigation
 - risk controls for stray, static and electrical faults
- relevant workplace documentation including calculations and inspection results
- relevant workplace policies and procedures including material storage, inspection, handling and reporting workplace procedures
- site preparation, safety plans, job requirements and work schedules
- weld quality and safety checks.

Assessment Conditions

As a minimum, assessors must satisfy applicable regulatory requirements, which include requirements in the Standards for Registered Training Organisations current at the time of assessment.

As a minimum, assessment must satisfy applicable regulatory requirements, which include requirements in the Standards for Registered Training Organisations current at the time of assessment.

Assessment must occur in workplace operational situations where it is appropriate to do so; where this is not appropriate, assessment must occur in simulated workplace operational situations that replicate workplace conditions.

Assessment processes and techniques must be appropriate to the language, literacy and numeracy requirements of the work being performed and the needs of the candidate.

Resources for assessment must include access to:

- a range of relevant exercises, case studies and/or 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>

UEGNSG210 Supervise and monitor contract staff for work on distribution pipelines

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 supervise and monitor contractors working in the field on gas distribution pipeline.

It includes providing information, guidance and direction to contractors to conduct their duties. It does not cover the high levels of technical expertise required to perform the services, but focuses on supervising and monitoring the process from a contractor management perspective.

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

Pre-requisite Unit

Not applicable.

Competency Field

Gas Distribution

Unit Sector

Gas Industry

Elements and Performance Criteria

ELEMENTS

Elements describe the essential outcomes.

1 Prepare for supervising and monitoring contract staff

PERFORMANCE CRITERIA

Performance criteria describe the performance needed to demonstrate achievement of the element.

- 1.1** Works schedules, drawings, plans, job requirements and material lists are obtained and analysed and site inspection conducted, as required, to determine the preparation work required for planning and coordination

- 1.2** Distribution pipeline work is prioritised and sequenced for completion within acceptable timeframes following consultation with relevant person/s in accordance with workplace procedures
- 1.3** Hazards and work health and safety (WHS)/occupational health and safety (OHS) risks are assessed and control measures implemented and monitored in accordance with workplace procedures
- 1.4** Job requirements and workplace procedures for the work are obtained for all work sites and communicated to relevant person/s, including contract staff
- 1.5** WHS/OHS, environmental and sustainable energy policies and procedures are obtained and for the work being performed and communicated to relevant person/s including contract staff
- 1.6** Relevant work permit/s are obtained to access and perform the distribution pipeline work in accordance with regulatory and job requirements and workplace procedures
- 1.7** Person/s, equipment, tools and personal protective equipment (PPE) required for the job are identified, scheduled and obtained, and checked for correct operation and safety in accordance with workplace procedures
- 1.8** Contractual requirements of person/s performing the work, including relevant qualifications, competency, currency, licenses, site induction and condition of equipment, are confirmed in accordance with workplace procedures
- 1.9** First aid officer at the work site is confirmed in accordance with job requirements and workplace procedures
- 1.10** Communication with relevant stakeholders is conducted and work coordinated in accordance with work schedule and workplace procedures
- 1.11** Person/s participating in the distribution pipeline work, including contract staff, are briefed and responsibilities coordinated and authorised in accordance with workplace procedures

- 1.12 Site is prepared to minimise risk and damage to property, commerce and individuals in accordance with work schedule and workplace procedures
 - 1.13 Road signs, barriers and warning devices are positioned in accordance with job requirements and traffic management plan
- 2 **Monitor and supervise contractor activities**
 - 2.1 WHS/OHS risk control measures and policies and procedures are followed in accordance with workplace procedures
 - 2.2 Hazardous activities are safely conducted by contractors in accordance with job instructions, regulatory requirements and workplace procedures
 - 2.3 Contractor activities are monitored and supervised to ensure job completion in agreed timeframes and to industry standards with a minimum of waste in accordance with job requirements and workplace procedures
 - 2.4 Contractor activity on the gas distribution pipeline is carried out in accordance with the work schedule and workplace procedures
 - 2.5 Hazard warnings and safety signs are recognised, hazards and WHS/OHS risks and incidents are assessed and reported to authorised person/s for directions in accordance with workplace procedures
 - 2.6 Unplanned events encountered when monitoring and supervising contractor activity are identified and actioned in accordance with requirements and workplace procedures
 - 2.7 Problem-solving and troubleshooting techniques are applied to problems encountered when monitoring and supervising contractor activity
 - 2.8 Quality and safety checks of the contractor work are undertaken in accordance with job and regulatory requirements and workplace procedures
- 3 **Complete work and relevant workplace documentation**
 - 3.1 Inspection of the contract job is checked against work schedule for conformance with job requirements and anomalies reported in accordance with workplace procedures

- 3.2 Accidents and injuries are reported and followed up in accordance with requirements and workplace procedures
- 3.3 Waste materials are safely disposed of and work site is rehabilitated, cleaned up and made safe in accordance with 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 work permit/s are signed off and equipment returned to service in accordance with job and regulatory requirements and workplace procedures
- 3.6 Data is recorded and work completion records, reports and as installed/modified drawings and documentation are completed, processed and appropriate person/s notified in accordance with workplace procedures

Foundation Skills

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

Range of Conditions

Range is restricted to essential operating conditions and any other variables essential to the work environment.

Non-essential conditions may be found in the UEG Gas Industry Training Package Companion Volume Implementation Guide.

Unit Mapping Information

This unit replaces and is equivalent to UEGNSG210B Supervise and monitor contract staff for work on distribution pipelines.

Links

Companion Volume Implementation Guides are found in VETNet -
<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=6a6c032e-ffcb-4f3d-8063-415efbd261e8>

Assessment Requirements for UEGNSG210 Supervise and monitor contract staff for work on distribution pipelines

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 and performance criteria on at least two separate occasions and include:

- applying decision-making and conflict resolution techniques
- applying environmental sustainable principles and practices
- applying planning and organisational skills, including checking work against work schedule/plan and working to timeframes
- applying problem-solving and troubleshooting techniques
- applying relevant industry standards, guidelines, codes of practice, legislation and regulations
- applying relevant work health and safety (WHS)/occupational health and safety (OHS) requirements, including:
 - emergency response procedures
 - hazard identification and reporting
 - implementing risk control measures
 - maintaining a safe clean workplace
 - selecting correct personal protective equipment (PPE)
- communicating with relevant stakeholders
- communicating work schedules and job requirements
- completing, monitoring and supervision records including maintaining relevant workplace documentation and records
- conducting quality and safety checks
- coordinating person/s and contractors, including conducting briefings
- dealing with unplanned events/situations in accordance with workplace procedures in a manner that minimises risk to personnel and equipment
- following traffic management plan
- interpreting technical drawings, plans, job requirements, and material lists
- monitoring and supervising contractor activities
- obtaining and complying with relevant work permits.

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:

- communication techniques required in supervisory roles
- contractual requirements of contract staff, including distribution pipeline contract staff
- decision-making and conflict resolution techniques
- environmental sustainable principles and practices
- gas industry drawings, plans and material lists
- gas industry products, processes and characteristics
- hazardous activities, including lifting, climbing, working in confined spaces and aloft, and use of power tools
- operating, working and supervising in the gas sector
- operation of relevant industry plant, equipment and materials
- oral and written communication techniques
- preparation of an excavation site
- problem-solving techniques
- relevant industry standards, guidelines, codes of practice and regulations
- relevant manufacturer specifications
- relevant stakeholders, including:
 - authorised persons, authorities, clients and land owners and tenants
 - workplace colleagues and managers
 - relevant customers and suppliers
 - regulatory bodies
 - emergency response organisations
- relevant timeframes
- relevant WHS/OHS legislated requirements, including:
 - hazards, risk assessment and control measures
 - hazard warnings and safety signs
 - hazardous materials
 - PPE
 - relevant safe work method statements (SWMS)/job safety assessments or risk mitigation processes
 - safe manual handling techniques
 - responding to emergency and accident situations
 - first aid requirements for gas industry supervisors
- relevant work permits
- relevant workplace documentation, forms and reports, including relevant gas industry documents
- relevant workplace policies and procedures
- requirements for reinstating and rehabilitating a work site

- site inspections
- techniques to locate utilities and services
- traffic management plan.

Assessment Conditions

As a minimum, assessors must satisfy applicable regulatory requirements, which include requirements in the Standards for Registered Training Organisations current at the time of assessment.

As a minimum, assessment must satisfy applicable regulatory requirements, which include requirements in the Standards for Registered Training Organisations current at the time of assessment.

Assessment must occur in workplace operational situations where it is appropriate to do so; where this is not appropriate, assessment must occur in simulated workplace operational situations that replicate workplace conditions.

Assessment processes and techniques must be appropriate to the language, literacy and numeracy requirements of the work being performed and the needs of the candidate.

Resources for assessment must include access to:

- a range of relevant exercises, case studies and/or 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>

UEGNSG212 Construct, lay and connect a gas distribution service to a plastic main

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 excavate bed preparation and construct, lay and connect a gas service to a plastic main, and complete the work and relevant documentation.

It includes installing the meter in accordance with industry standards and regulatory requirements. It also includes using relevant tools and equipment, working safely in accordance with workplace procedures and complying with relevant legislative, standards and code requirements.

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

Pre-requisite Unit

Not applicable.

Competency Field

Gas Distribution

Unit Sector

Gas Industry

Elements and Performance Criteria

ELEMENTS

Elements describe the essential outcomes.

1 Prepare to construct and lay a gas service to a plastic main

PERFORMANCE CRITERIA

Performance criteria describe the performance needed to demonstrate achievement of the element.

1.1 Work health and safety (WHS)/occupational health and safety (OHS) workplace procedures and environmental measures for the site are identified, obtained and applied

- 1.2 Job requirements and workplace procedures for the site are obtained and discussed with relevant person/s to confirm work schedule
 - 1.3 WHS/OHS, environmental and sustainable energy policies and procedures are obtained and applied in accordance with workplace procedures
 - 1.4 Hazards are identified, risks are assessed and control measures are prioritised, implemented and monitored in accordance with workplace procedures
 - 1.5 Work permit and/or relevant notification is obtained and confirmed with relevant person/s in accordance with job requirements and workplace procedures
 - 1.6 Equipment, plant, tools and personal protective equipment (PPE) required to construct and lay gas services are identified, obtained and checked for correct operation and safety in accordance with workplace procedures
 - 1.7 Relevant person/s are consulted to ensure the work is coordinated effectively with others involved
 - 1.8 Materials, plans, diagrams, drawings and resources required to construct and lay gas services are confirmed, scheduled and obtained in accordance with workplace procedures
 - 1.9 Safety and emergency procedures for an incident at the work site are checked and confirmed with relevant person/s
 - 1.10 Third party issues are referred to relevant person/s in accordance with established procedures
 - 1.11 Site preparation, safety plan and work schedule are confirmed with relevant person/s in accordance with workplace procedures
- 2 **Construct and lay a gas service to a plastic main**
 - 2.1 WHS/OHS risk control measures, schedule of work and workplace procedures for carrying out work are followed
 - 2.2 Appropriate materials, tools, equipment and measuring devices required for the work are selected and used correctly and safely in accordance with manufacturer instructions and workplace procedures

- 2.3 Hazardous activities are conducted safely in accordance with WHS/OHS workplace procedures and job instructions
- 2.4 Excavation site is prepared for laying of pipe in accordance with industry standards and workplace procedures
- 2.5 Construction and laying of gas services to plastic main are conducted in accordance with industry standards and workplace procedures
- 2.6 Work is carried out to the required standard, without waste of materials or damage to apparatus, equipment, and the surrounding environment or services using sustainable energy principles
- 2.7 WHS/OHS risks, incidents and accidents are reported to authorised person/s for directions in accordance with workplace procedures
- 2.8 Unplanned events are referred to authorised person/s in accordance with workplace procedures
- 2.9 Pipework is tested and quality and safety checks are carried out in accordance with work instructions and industry standards
- 3 **Complete the work and relevant documentation**
 - 3.1 WHS/OHS risk control measures for work completion are followed
 - 3.2 Relevant person/s are notified of work completion in accordance with workplace procedures
 - 3.3 Tools, equipment and any surplus resources and materials are cleaned, checked and securely stored in accordance with workplace procedures
 - 3.4 Work site is tidied and made safe in accordance with workplace procedures
 - 3.5 Work documentation is completed and provided to relevant person/s in accordance with workplace procedures

Foundation Skills

Foundation skills essential to performance are explicit in the performance criteria of this unit of

competency.

Range of Conditions

Range is restricted to essential operating conditions and any other variables essential to the work environment.

Non-essential conditions may be found in the UEG Gas Industry Training Package Companion Volume Implementation Guide.

Unit Mapping Information

This unit replaces and is equivalent to UEGNSG212B Construct, lay and connect a gas distribution service to a plastic main.

Links

Companion Volume Implementation Guides are found in VETNet -
<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=6a6c032e-ffcb-4f3d-8063-415efbd261e8>

Assessment Requirements for UEGNSG212 Construct, lay and connect a gas distribution service to a plastic main

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 and performance criteria on at least two separate occasions and include:

- applying relevant industry standards, guidelines, codes of practice and regulations
- applying relevant work health and safety (WHS)/occupational health and safety (OHS) requirements
- applying sustainable energy and environmental principles and practices
- checking tools, equipment, plant and personal protective equipment (PPE) for correct operation and safety
- cleaning, checking and storing tools and equipment
- communicating effectively with others
- completing required documentation and reporting
- conducting quality and safety checks
- constructing and laying a gas service to a plastic main
- dealing with unplanned events/situations in accordance with workplace procedures in a manner that minimises risk to personnel and equipment
- identifying and correctly reading plans, drawings, manuals and diagrams
- identifying plant and equipment and safe operating parameters/requirements
- maintaining a clean work area
- obtaining relevant resources, tools, equipment and materials to conduct the work
- preparing the excavation site
- preparing to construct and lay a gas service to a plastic main
- testing pipework
- working in accordance with relevant work permit/notifications.

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:

- effective communication techniques
- environmental and sustainable energy principles and practices

- excavation and bedding requirements for service pipelines
- gas service pipelines types, characteristics and components
- hazardous activities, including the use of power tools, lifting, climbing, and working in confined spaces, excavations and trenches
- installation and testing of service pipelines
- plastic gas main pipelines types, characteristics and components
- pipework tests
- quality and safety checks
- relevant industry standards, codes of practice, legislations and regulations
- relevant manufacturer specifications
- relevant materials, plans, diagrams, drawings and resources
- relevant materials, tools, equipment, plant, measuring devices and PPE
- relevant safe work method statements (SWMS)/job safety assessments or risk mitigation processes
- relevant WHS/OHS legislated requirements, including:
 - hazards, risk assessment and control measures
 - dangers of working with live gas
- relevant work permits and/or notifications
- relevant workplace documentation
- relevant workplace policies and procedures
- site preparation, safety plans, job requirements and work schedules
- third-party issues.

Assessment Conditions

As a minimum, assessors must satisfy applicable regulatory requirements, which include requirements in the Standards for Registered Training Organisations current at the time of assessment.

As a minimum, assessment must satisfy applicable regulatory requirements, which include requirements in the Standards for Registered Training Organisations current at the time of assessment.

Assessment must occur in workplace operational situations where it is appropriate to do so; where this is not appropriate, assessment must occur in simulated workplace operational situations that replicate workplace conditions.

Assessment processes and techniques must be appropriate to the language, literacy and numeracy requirements of the work being performed and the needs of the candidate.

Resources for assessment must include access to:

- a range of relevant exercises, case studies and/or 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>

UEGNSG213 Construct, lay and connect a gas distribution service to a steel main

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 excavate bed preparation and construct, lay and connect a gas service to a steel main, and complete the work and relevant documentation.

It includes installing the meter in accordance with industry standards and regulatory requirements. It also includes using relevant tools and equipment, working safely in accordance with workplace procedures and complying with relevant legislative, industry standards and codes of practice requirements.

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

Pre-requisite Unit

Not applicable.

Competency Field

Gas Distribution

Unit Sector

Gas Industry

Elements and Performance Criteria

ELEMENTS

Elements describe the essential outcomes.

1 Prepare to construct and lay a gas service to a steel main

PERFORMANCE CRITERIA

Performance criteria describe the performance needed to demonstrate achievement of the element.

1.1 Work health and safety (WHS)/occupational health and safety (OHS) workplace procedures and environmental measures for the site are identified, obtained and applied

- 1.2 Job requirements and workplace procedures for the site are obtained and discussed with relevant person/s to confirm the work schedule
 - 1.3 WHS/OHS, environmental and sustainable energy policies and procedures are obtained and applied in accordance with workplace procedures
 - 1.4 Hazards are identified, risks are assessed and control measures prioritised, implemented and monitored in accordance with workplace procedures
 - 1.5 Work permit and/or relevant notification is obtained and confirmed with relevant person/s in accordance with job requirements and workplace procedures
 - 1.6 Equipment, plant, tools and personal protective equipment (PPE) required to construct and lay gas services are identified, obtained and checked for correct operation and safety in accordance with workplace procedures
 - 1.7 Relevant person/s are consulted to ensure the work is coordinated effectively with others involved
 - 1.8 Materials, plans, diagrams, drawings and resources required to construct and lay gas services are confirmed, scheduled and obtained in accordance with workplace procedures
 - 1.9 Safety and emergency procedures for an incident at the work site are checked and confirmed with relevant person/s
 - 1.10 Third-party issues are referred to relevant person/s in accordance with established procedures
 - 1.11 Site preparation, safety plan and work schedule are confirmed with relevant person/s in accordance with workplace procedures
- 2 **Construct and lay a gas service to a steel main**
 - 2.1 WHS/OHS and environmental risk control measures, schedule of work and workplace procedures for carrying out work are followed
 - 2.2 Materials, tools, equipment and measuring devices required for the work are selected and used correctly and safely in accordance with manufacturer instructions and workplace procedures

- 2.3 Hazardous activities are conducted safely in accordance with given instructions and to requirements
- 2.4 Excavation bed is prepared for laying of pipe in accordance with industry standards and workplace procedures
- 2.5 Construction and laying of gas services to steel main are conducted in accordance with industry standards and workplace procedures
- 2.6 Work is carried out to the required standard, without waste of materials or damage to apparatus, equipment, and the surrounding environment or services using sustainable energy principles
- 2.7 WHS/OHS risks, incidents and accidents are reported to authorised person/s for directions in accordance with workplace procedures
- 2.8 Unplanned events are referred to authorised person/s for directions in accordance with workplace procedures
- 2.9 Pipework is tested and quality and safety checks of installation are carried out in accordance with work instructions and industry standards
- 3 **Complete the work and relevant documentation**
 - 3.1 WHS/OHS and environmental risk control measures for work completion are followed
 - 3.2 Relevant person/s are notified of work completion in accordance with workplace procedures
 - 3.3 Tools, equipment and any surplus resources and materials are cleaned, checked and securely stored in accordance with workplace procedures
 - 3.4 Work site is tidied and made safe in accordance with workplace procedures
 - 3.5 Work documentation is completed and provided to relevant person/s in accordance with workplace procedures

Foundation Skills

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

Range of Conditions

Range is restricted to essential operating conditions and any other variables essential to the work environment.

Non-essential conditions may be found in the UEG Gas Industry Training Package Companion Volume Implementation Guide.

Unit Mapping Information

This unit replaces and is equivalent to UEGNSG213B Construct, lay and connect a gas distribution service to a steel main.

Links

Companion Volume Implementation Guides are found in VETNet -
<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=6a6c032e-ffcb-4f3d-8063-415efbd261e8>

Assessment Requirements for UEGNSG213 Construct, lay and connect a gas distribution service to a steel main

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 and performance criteria on at least two separate occasions and include:

- applying relevant industry standards, guidelines, codes of practice and regulations
- applying relevant work health and safety (WHS)/occupational health and safety (OHS) requirements
- applying sustainable energy and environmental principles and practices
- checking tools, equipment, plant and personal protective equipment (PPE) for correct operation and safety
- cleaning, checking and storing tools and equipment
- communicating effectively with others
- completing required documentation and reporting
- conducting quality and safety checks
- constructing and laying a service to a steel main
- dealing with unplanned events/situations in accordance with workplace procedures in a manner that minimises risk to personnel and equipment
- identifying and correctly reading plans, drawings, manuals and diagrams
- identifying plant and equipment and safe operating parameters/requirements
- maintaining a clean work area
- obtaining relevant resources, tools, equipment and materials to conduct the work
- preparing the excavation site
- preparing to construct and lay a service to a steel main
- testing pipework
- working in accordance with relevant work permit/notifications.

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:

- gas service pipelines types, characteristics and components
- hazardous activities, including the use of power tools, lifting, climbing, and working in

- confined spaces, excavations and trenches
- steel gas main pipelines types, characteristics and components
- relevant standards, legislations, codes and regulations
- effective communication techniques
- environmental and sustainable energy principles and practices
- excavation and bedding requirements for service pipelines
- installation and testing of service pipelines
- pipework tests
- quality and safety checks
- relevant manufacturer specifications
- relevant materials, plans, diagrams, drawings and resources
- relevant materials, tools, equipment, plant, measuring devices and PPE
- relevant safe work method statements (SWMS)/job safety assessments or risk mitigation processes
- relevant work permits and/or notifications
- relevant workplace documentation
- relevant workplace policies and procedures
- relevant WHS/OHS legislated requirements, including:
 - hazards, risk assessment and control measures
 - dangers of working with live gas
- site preparation, safety plans job requirements and work schedules
- third-party issues.

Assessment Conditions

As a minimum, assessors must satisfy applicable regulatory requirements, which include requirements in the Standards for Registered Training Organisations current at the time of assessment.

As a minimum, assessment must satisfy applicable regulatory requirements, which include requirements in the Standards for Registered Training Organisations current at the time of assessment.

Assessment must occur in workplace operational situations where it is appropriate to do so; where this is not appropriate, assessment must occur in simulated workplace operational situations that replicate workplace conditions.

Assessment processes and techniques must be appropriate to the language, literacy and numeracy requirements of the work being performed and the needs of the candidate.

Resources for assessment must include access to:

- a range of relevant exercises, case studies and/or 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>

UEGNSG217 Launch and recover PIGs in a gas distribution pipeline

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 launch and recover pipeline inspection gauge (PIG) in gas distribution pipelines to ensure the pipeline is clean and dry with no obstructions prior to commissioning.

It includes inspecting, launching and recovering PIGs and PIG traps in accordance with manufacturer requirements and documenting relevant outcomes.

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

Pre-requisite Unit

Not applicable.

Competency Field

Gas Distribution

Unit Sector

Gas Industry

Elements and Performance Criteria

ELEMENTS

Elements describe the essential outcomes.

1 Prepare and plan for pigging gas distribution pipelines

PERFORMANCE CRITERIA

Performance criteria describe the performance needed to demonstrate achievement of the element.

- 1.1** Work health and safety (WHS)/occupational health and safety (OHS) workplace procedures and environmental measures for the site are identified, obtained and applied
- 1.2** Job requirements and workplace procedures for the

work are obtained and discussed with relevant person/s to confirm the work schedule

- 1.3** WHS/OHS, environmental and sustainable energy policies and procedures are obtained and applied
- 1.4** Hazards are identified, WHS/OHS risks are assessed and control measures prioritised, implemented and monitored in accordance with workplace procedures
- 1.5** Responsibilities under the relevant work permit/notification are obtained and confirmed with relevant person/s to access, isolate/de-isolate systems and perform the work in accordance with regulatory requirements and workplace procedures
- 1.6** Personnel, equipment, tools and personal protective equipment (PPE) required for the work are identified, scheduled, obtained and checked for correct operation and safety in accordance with workplace procedures
- 1.7** Materials, plans, diagrams, drawings and resources required for work are confirmed, scheduled and obtained in accordance with workplace procedures
- 1.8** Responsibilities for first aid and other emergency incidents at the work site are checked and confirmed with relevant person/s in accordance with workplace procedures
- 1.9** Communication with authorised person/s, authorities, clients and land-owners is conducted and work coordinated in accordance with work schedule and workplace procedures
- 1.10** Site preparation, safety plan and work schedule are confirmed in accordance with workplace procedures
- 1.11** Site, PIG, PIG trap and pipeline are prepared to minimise risk and damage to property, commerce and individuals in accordance with workplace procedures
- 1.12** Person/s participating in the work, including plant operators and contractors, are briefed and responsibilities confirmed in accordance with workplace procedures
- 1.13** Road signs, barriers and warning devices are positioned in accordance with job requirements, workplace

		procedures and traffic management plan
2 Launch and recover gas distribution pipeline PIGs	2.1	WHS/OHS risk control measures, schedule of work and workplace procedures for carrying out the work are followed
	2.2	Materials, tools, equipment and measuring devices required for the work are selected and used correctly and safely in accordance with manufacturer instructions
	2.3	Hazardous activities and use of power tools, techniques and practices are conducted safely in accordance with job instructions, regulatory requirements and workplace procedures
	2.4	Launch and recovery of gas distribution pipeline PIG is carried out in accordance with work schedule and workplace procedures
	2.5	Work is carried out to industry standards without waste of materials or damage to apparatus, circuits, and the surrounding environment or services using sustainable energy principles
	2.6	Data/results from distribution pipeline pigging operations is gathered/retrieved and analysed to determine internal pipeline conditions in accordance with workplace procedures
	2.7	Testing and inspecting of pipeline and pigging equipment is conducted in accordance with job requirements and workplace procedures
	2.8	Hazards are identified and WHS/OHS risks are assessed and incidents reported to authorised person/s for directions in accordance with workplace procedures
	2.9	Unplanned events and non-routine problems are referred to authorised person/s for direction in accordance with workplace procedures
	2.10	Quality and safety checks of the work are undertaken in accordance with industry standards and workplace procedures
3 Re-establish distribution pipeline to operational condition, and complete work and relevant	3.1	WHS/OHS risk control measures and workplace procedures for completing the work are followed

documentation

- 3.2 Retrieved PIG is inspected to determine the wear sustained to the PIG, material is checked against works schedule for conformance and anomalies reported in accordance with workplace procedures
- 3.3 Waste materials are safely disposed of and work site is rehabilitated, cleaned up and made safe in accordance with workplace procedures
- 3.4 Tools, equipment and any surplus resources and materials are cleaned, checked and securely stored in accordance with workplace procedures
- 3.5 Appropriate person/s are notified of work completion in accordance with workplace procedures
- 3.6 Relevant work permit/s are signed off and pipeline returned to service in accordance with regulatory requirements and workplace procedures
- 3.7 Data is recorded and work completion documentation is completed and provided to the appropriate person/s in accordance with workplace procedures

Foundation Skills

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

Range of Conditions

Range is restricted to essential operating conditions and any other variables essential to the work environment.

Non-essential conditions may be found in the UEG Gas Industry Training Package Companion Volume Implementation Guide.

launch and recovery of PIGs in new or decommissioned gas distribution main pipelines must include:

- prepare PIG trap for launch
- connections to compressors
- prepare trap for receiving
- determine volume of water /compressor requirements from chart/table needed
- install disc PIG
- carry out pigging operation
- install foam PIG

- carry out pigging operation
- recover PIG
- pressure test pipeline

Unit Mapping Information

This unit replaces and is equivalent to UEGNSG217A Launch and recover PIGs in a gas distribution pipeline.

Links

Companion Volume Implementation Guides are found in VETNet -
<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=6a6c032e-ffcb-4f3d-8063-415efbd261e8>

Assessment Requirements for UEGNSG217 Launch and recover PIGs in a gas distribution pipeline

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:

- analysing data/results from pigging to determine pipeline condition
- applying decision-making and conflict resolution 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:
 - ensuring emergency response procedures are in place
 - conducting job safety analysis (JSA)
 - working safely with hazardous materials and equipment
 - hazard identification and reporting
 - implementing risk control measures
 - selecting and using correct personal protective equipment (PPE)
- applying sustainable energy and environmental principles and practices
- carrying out pigging operation
- communicating with relevant stakeholders
- conducting quality and safety checks
- dealing with unplanned events/situations in accordance with workplace procedures in a manner that minimises risk to personnel and equipment
- following traffic management plan
- inspecting pipeline inspection gauges (PIGs) to determine wear
- interpreting technical drawings and plans
- obtaining and complying with relevant work permits
- preparing and planning for pigging gas distribution pipelines
- preparing pig trap for launch
- preparing trap for receiving
- recording data
- recovering distribution pipeline PIG
- re-establishing distribution pipeline to operational condition
- testing and inspecting pipeline and pigging equipment.

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:

- fault-finding and troubleshooting techniques
- hazardous activities, including lifting, climbing, working in confined spaces or aloft, and use of power tools
- quality and safety checks
- pipeline preparation, including:
 - relevant authorities and persons to be notified and approval requirements
 - types of pipeline materials
 - new and existing pipelines and stations
 - trap launchers and receivers installed
 - water and waste disposal requirements
 - pipeline pigging sequence
- pigging a main pipeline, including:
 - insertion/launching
 - monitoring and communication
 - capture/recovery
 - traps
 - dangers
- relevant documentation, reporting and communication for pigging
- relevant industry plant, equipment, tools and materials
- relevant work permits
- relevant WHS/OHS legislated requirements, including:
 - hazard identification and reporting
 - implementing risk control measures
 - risk assessment
 - hazardous and flammable materials
 - environmental and sustainable energy principles and practices
 - noise levels
- traffic management plans
- types of PIGs and applications
- waste disposal.

Assessment Conditions

As a minimum, assessors must satisfy applicable regulatory requirements, which include requirements in the Standards for Registered Training Organisations current at the time of

assessment.

As a minimum, assessment must satisfy applicable regulatory requirements, which include requirements in the Standards for Registered Training Organisations current at the time of assessment.

Assessment must occur in workplace operational situations where it is appropriate to do so; where this is not appropriate, assessment must occur in simulated workplace operational situations that replicate workplace conditions.

Assessment processes and techniques must be appropriate to the language, literacy and numeracy requirements of the work being performed and the needs of the candidate.

Resources for assessment must include access to:

- a range of relevant exercises, case studies and/or 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>

UEGNSG218 Carry out surveillance on gas distribution assets

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 prepare and carry out surveillance on gas distribution assets, and complete work and relevant documentation in accordance with relevant legislation, industry standards, codes of practice and workplace procedures.

It includes identifying system non-conformances by monitoring the area/third-party area for security conditions and inspecting the system's pipe work, structures, fittings and equipment in accordance with organisational and statutory requirements.

Aerial surveillance is not covered by this unit.

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

Pre-requisite Unit

Not applicable.

Competency Field

Gas Distribution

Unit Sector

Gas Industry

Elements and Performance Criteria

ELEMENTS

Elements describe the essential outcomes.

1 Prepare to carry out surveillance on gas distribution assets

PERFORMANCE CRITERIA

Performance criteria describe the performance needed to demonstrate achievement of the element.

1.1 Work health and safety (WHS)/occupational health and safety (OHS) workplace procedures and environmental, cultural and heritage measures for the site are identified, obtained and applied

- 1.2 Job requirements and workplace procedures for the surveillance work are discussed with relevant person/s to confirm the work schedule
 - 1.3 WHS/OHS, environmental and sustainable energy policies and procedures are obtained and applied
 - 1.4 Work is prioritised and sequenced for completion within acceptable timeframes following consultation with relevant person/s in accordance with workplace procedures
 - 1.5 Hazards are identified, WHS/OHS and environmental risks are assessed and control measures prioritised, implemented and monitored in accordance with workplace procedures
 - 1.6 Scope of work and level of responsibility under the relevant work authorisation/permit/notification is obtained and confirmed with relevant person/s in accordance with workplace procedures
 - 1.7 Plant, equipment, tools and personal protective equipment (PPE) required for gas distribution pipeline surveillance work are identified, obtained and checked for correct operation and safety in accordance with workplace procedures
 - 1.8 Materials, plans, diagrams, drawings and resources required for the work are confirmed, scheduled and obtained in accordance with established procedures
 - 1.8 Communication issues with relevant stakeholders are resolved, where necessary
 - 1.9 Person/s participating in the work are briefed and responsibilities confirmed in accordance with workplace procedures
 - 1.10 Site preparation, safety plan and work schedule are confirmed with relevant person/s in accordance with workplace procedures
- 2 **Carry out surveillance on gas distribution assets**
 - 2.1 WHS/OHS risk control measures, schedule of work and workplace procedures for carrying out work are followed
 - 2.2 Relevant materials, tools, equipment and measuring devices are selected and used correctly and safely in

accordance with workplace procedures and manufacturer instructions

- 2.3 Dealings with customers are consistent with workplace procedures and the special needs of customers are identified and considered in targeting client service
- 2.4 Surveillance work is carried out to the required standard, without waste of materials or damage to apparatus, equipment, and the surrounding environment or services using sustainable energy principles
- 2.5 Leakages and damaged assets, structures, systems and fittings are recorded in accordance with the work schedule and workplace procedures
- 2.6 WHS/OHS risks and incidents are reported to authorised person/s for directions in accordance with workplace procedures
- 2.7 System breaches, faults and unplanned events are identified and resolved, where possible, and operational condition of the network reported to relevant person/s in accordance with workplace procedures
- 2.8 Key issues are identified and solutions/options developed, implemented and communicated to relevant stakeholders in accordance with workplace procedures

3 Complete work and relevant documentation

- 3.1 WHS/OHS risk control measures for work completion are followed
- 3.2 Work area is tidied and made safe in accordance with workplace procedures
- 3.3 Tools and equipment are cleaned, checked and securely stored in accordance with workplace procedures
- 3.4 Relevant person/s are notified of work completion, non-conformances and proposed solutions/options in accordance with workplace procedures
- 3.5 Surveillance completion documentation and relevant records, reports and documentation are completed and provided to appropriate person/s in accordance with workplace procedures

Foundation Skills

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

Range of Conditions

Range is restricted to essential operating conditions and any other variables essential to the work environment.

Non-essential conditions may be found in the UEG Gas Industry Training Package Companion Volume Implementation Guide.

carrying out surveillance on gas distribution assets must include:

- different types of surveillance, i.e. vehicle and foot
- liaison with affected land owners and relevance of properties
- identification and recording non-conformances in accordance with surveillance schedules, including:
 - pressure/flow
 - damaged assets
 - pipes and fittings

Unit Mapping Information

This unit replaces and is equivalent to UEGNSG218A Carry out surveillance on gas distribution assets.

Links

Companion Volume Implementation Guides are found in VETNet - <https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=6a6c032e-ffcb-4f3d-8063-415efbd261e8>

Assessment Requirements for UEGNSG218 Carry out surveillance on gas distribution assets

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:

- analysing surveillance information
- applying problem-solving techniques and implementing solutions
- applying relevant industry standards, guidelines, codes of practice and regulations
- applying relevant work health and safety (WHS)/occupational health and safety (OHS) requirements, including:
 - maintaining a safe workplace
 - hazard identification and reporting
 - implementing risk control measures
- applying sustainable energy and environmental, cultural and heritage principles and practices
- carrying out surveillance on gas distribution assets, including completing surveillance work
- communicating effectively with others, including relevant stakeholders
- completing required documentation and reporting
- dealing with unplanned events/situations in accordance with workplace procedures in a manner that minimises risk to personnel and equipment
- following work schedule, safety plan and job requirements
- following workplace procedures
- identifying leaks, damaged assets, structures, systems, pipes and fittings
- identifying system/asset breaches, faults and non-conformances
- interpreting relevant drawings, plans and diagrams
- selecting and using correct materials, equipment, tools, personal protection equipment (PPE) and measuring devices
- working in accordance with relevant work permit/notifications
- working within agreed timeframes.

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:

- cultural and heritage requirements in relation to pipeline surveillance
- effective communication techniques
- information gathering techniques
- landholder engagement
- pipeline risks managed through surveillance
- problem-solving techniques
- quality checks including:
 - techniques to identify damaged and leaking assets, structures, systems and fittings
 - techniques to identify system breaches and faults
 - types of assets
- relevant industry standards, guidelines, codes of practice and regulations
- relevant manufacturer specifications
- relevant materials, drawings, plans and diagrams
- relevant plant, tools, equipment, measuring devices and PPE
- relevant stakeholders, including authorised persons, authorities, land owners and clients
- relevant work permits and/or notifications
- relevant workplace documentation, including safety plans, work schedules and jobs requirements
- relevant workplace policies and procedures
- relevant WHS/OHS legislated requirements, including:
 - hazards, risk assessment and control measures
 - environmental and sustainable energy principles and practices
- surveillance work techniques, including different types of surveillance methods and techniques to analyse surveillance information.

Assessment Conditions

As a minimum, assessors must satisfy applicable regulatory requirements, which include requirements in the Standards for Registered Training Organisations current at the time of assessment.

As a minimum, assessment must satisfy applicable regulatory requirements, which include requirements in the Standards for Registered Training Organisations current at the time of assessment.

Assessment must occur in workplace operational situations where it is appropriate to do so; where this is not appropriate, assessment must occur in simulated workplace operational situations that replicate workplace conditions.

Assessment processes and techniques must be appropriate to the language, literacy and numeracy requirements of the work being performed and the needs of the candidate.

Resources for assessment must include access to:

- a range of relevant exercises, case studies and/or 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>

UEGNSG219 Conduct excavations in the utilities industry

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 prepare, conduct and complete excavation work and relevant documentation in the utilities industry.

It includes site preparation and planning, including traffic control, and excavation and back filling work in accordance with relevant legislation, industry standards, codes of practice 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

Transmission and Distribution

Unit Sector

Gas Industry

Elements and Performance Criteria

ELEMENTS

Elements describe the essential outcomes.

1 Prepare to conduct excavation work

PERFORMANCE CRITERIA

Performance criteria describe the performance needed to demonstrate achievement of the element.

- 1.1** Work health and safety (WHS)/occupational health and safety (OHS) and environmental measures for the site are identified, obtained and applied in accordance with workplace procedures
- 1.2** Job requirements and workplace procedures for the site are discussed with relevant person/s to confirm the work

schedule

- 1.3** Hazards are identified and reported to the supervisor to assess risks and control measures implemented in accordance with workplace procedures
 - 1.4** Scope of responsibility under the relevant work permit and/or relevant authorisation is obtained and confirmed with relevant person/s in accordance with job requirements and workplace procedures
 - 1.5** Equipment, tools, excavation machinery and personal protective equipment (PPE) required for the excavation work are identified, obtained and checked for correct operation and safety in accordance with manufacturer instructions and workplace procedures
 - 1.6** Materials, plans, diagrams, maps, drawings and resources required for the excavation are obtained and confirmed with relevant person/s and against job requirements in accordance with workplace procedures
 - 1.7** Responsibilities for safety and emergency procedures for an incident at the work site are checked and confirmed with relevant person/s
 - 1.8** Client issues are referred to relevant person/s in accordance with workplace procedures
 - 1.9** Location of other utility services, site preparation and work schedule are confirmed against job requirements and relevant maps, diagrams and plans in accordance with workplace procedures
 - 1.10** Traffic management signs, barriers and warning devices are confirmed as correctly positioned with relevant person/s in accordance with job requirements, traffic management plans and workplace procedures
- 2 Conduct excavation work**
- 2.1** WHS/OHS risk control measures, schedule of work and workplace procedures for carrying out work are followed
 - 2.2** Materials, tools, plant and equipment for the excavation work are selected and used safely in accordance with manufacturer instructions and workplace procedures
 - 2.3** Hazardous activities associated with excavation work are conducted in accordance with job instructions, safety

requirements and workplace procedures

- 2.4 Excavation work, shoring and trenching, is carried out to industry standards, without waste of materials or damage to apparatus, equipment, and the surrounding environment or services using sustainable energy principles
- 2.5 WHS/OHS risks, incidents and unplanned events are reported to authorised person/s for directions in accordance with workplace procedures
- 2.6 Quality and safety checks are carried out in accordance with workplace procedures

3 Complete excavation work and relevant documentation

- 3.1 WHS/OHS risk control measures for work completion are reviewed, monitored and followed
- 3.2 Backfilling is performed, work site rehabilitated, tidied, made safe and markers installed or re-instated in accordance with work schedule and workplace procedures
- 3.3 Tools, plant, equipment and any surplus resources and materials are cleaned, checked and securely stored in accordance with workplace procedures.
- 3.4 Relevant person/s are notified of work completion in accordance with workplace procedures
- 3.5 Documentation is completed and provided to relevant person/s in accordance with workplace procedures

Foundation Skills

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

Range of Conditions

Range is restricted to essential operating conditions and any other variables essential to the work environment.

Non-essential conditions may be found in the UEG Gas Industry Training Package Companion Volume Implementation Guide.

Unit Mapping Information

This unit replaces and is equivalent to UEGNSG219A Conduct excavations in the utilities industry.

Links

Companion Volume Implementation Guides are found in VETNet -
<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=6a6c032e-ffcb-4f3d-8063-415efbd261e8>

Assessment Requirements for UEGNSG219 Conduct excavations in the utilities industry

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 and performance criteria on at least two separate occasions and include:

- applying relevant work health and safety (WHS)/occupational health and safety (OHS) requirements, including:
 - accessing and using relevant safety resources
 - dealing with unplanned events/situations in accordance with workplace procedures in a manner that minimises risk to personnel and equipment
 - following emergency management plan
 - following safety and emergency procedures for incidents
 - hazard identification and reporting
 - implementing risk control measures
 - selecting and using the correct personal protective equipment (PPE)
 - undertaking hazardous activities in a safe manner
- applying sustainable energy and environmental principles and practices
- completing excavation work and relevant documentation
- following manufacturer instructions
- following workplace policies and procedures, including:
 - obtaining relevant resources and materials for conducting excavation work, including shoring, trenching and backfilling
 - confirming location of other utility services
 - excavation procedures
 - obtaining relevant work permits and notifications
 - preparatory procedures
 - traffic control procedures
- identifying and checking tools, equipment and plant for correct operation and safety, including cleaning and storing tools, equipment, machinery and plant after use
- installing or re-instating markers part of confirmation of location
- obtaining, interpreting and completing workplace documents, including plans, drawings, work instructions, permits, maps, diagrams, schedules, and quality and safety checks

- obtaining job requirements, work instructions, safety plan and work schedule
- positioning traffic management signs, barriers and warning devices
- rehabilitating and maintaining a clean and safe work site
- selecting and operating correct tools, plant, equipment, and machinery, including:
 - small generator sets
 - air compressors and hoses
 - pneumatic hammers
 - rollers and compactors
 - hand held concrete and ceramic cutters.

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:

- client issues include gas utilities assets types, characteristics relevant to network operator
- environmental and sustainable energy principles and practices
- excavation of trenches and manholes, including:
 - manual excavation
 - mechanical excavation
 - excavation process and work designs
 - excavation types, steps, approval, documentation and maps
 - non-invasive excavation machines
 - backfilling
- excavation and shoring techniques to suit varying conditions, including:
 - surface types
 - soil types
 - weather
 - traffic
 - time of day
 - location
- quality and safety checks
- relevant manufacturer specifications
- relevant materials, tools, equipment, devices and PPE
- relevant permits and authorisations required
- relevant WHS/OHS legislated requirements
- relevant workplace documentation
- relevant workplace policies and procedures
- relevant legislation, regulations, codes of practice and industry standards
- relevant plans, diagrams, maps and drawings
- relevant safety and environmental hazards and mitigation measures, including:

- hazards and field risk assessments
- electrical, gases, toxins and fumes
- security and fall prevention
- prevention of trench collapse
- confined spaces awareness
- traffic hazards
- emergency control measures
- first aid, emergency and safety procedures for incidents
- hazards and hazardous activities in the workplace
- site preparation, work schedules, safety plans and job requirements
- trench and site restoration and reinstatement techniques, including:
 - ground surface level finishes
 - asset markers and signs
- techniques to identify other utilities
- techniques to minimise waste
- traffic management signs, barriers and warning devices.

Assessment Conditions

As a minimum, assessors must satisfy applicable regulatory requirements, which include requirements in the Standards for Registered Training Organisations current at the time of assessment.

As a minimum, assessment must satisfy applicable regulatory requirements, which include requirements in the Standards for Registered Training Organisations current at the time of assessment.

Assessment must occur in workplace operational situations where it is appropriate to do so; where this is not appropriate, assessment must occur in simulated workplace operational situations that replicate workplace conditions.

Assessment processes and techniques must be appropriate to the language, literacy and numeracy requirements of the work being performed and the needs of the candidate.

Resources for assessment must include access to:

- a range of relevant exercises, case studies and/or 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>

UEGNSG222 Construct and lay nylon or PVC gas distribution mains

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 construct and lay nylon or polyvinyl chloride (PVC) gas distribution mains.

It includes constructing and laying nylon or PVC gas distribution mains using relevant tools and equipment, completing necessary documentation and working safely in accordance with workplace procedures and relevant legislative, industry standards and codes of practice requirements.

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

Pre-requisite Unit

Not applicable.

Competency Field

Gas Distribution

Unit Sector

Gas Industry

Elements and Performance Criteria

ELEMENTS

Elements describe the essential outcomes.

1 Prepare to construct and lay nylon or PVC gas distribution mains

PERFORMANCE CRITERIA

Performance criteria describe the performance needed to demonstrate achievement of the element.

1.1 Work health and safety (WHS)/occupational health and safety (OHS) workplace procedures and environmental measures for the site are identified, obtained and applied

- 1.2 Job requirements and workplace procedures for the site are discussed with relevant person/s to confirm the work schedule
 - 1.3 WHS/OHS, environmental and sustainable energy policies and procedures are obtained and applied in accordance with workplace procedures
 - 1.4 Hazards are identified, WHS/OHS risks are assessed and control measures prioritised, implemented and monitored in accordance with workplace procedures
 - 1.5 Scope of work and level of responsibility under the relevant work permit and/or notification is confirmed with relevant person/s in accordance with job requirements and workplace procedures
 - 1.6 Equipment, plant, tools and personal protective equipment (PPE) required to construct and lay nylon/PVC gas distribution pipelines and services are identified, obtained and checked for correct operation and safety in accordance with workplace procedures
 - 1.7 Relevant person/s are consulted to ensure the work is coordinated effectively with others involved
 - 1.8 Materials, plans, diagrams, drawings and resources required to construct and lay nylon/PVC gas distribution mains are confirmed, scheduled and obtained in accordance with workplace procedures
 - 1.9 Safety and emergency procedures and responsibilities for an incident at the work site are checked and confirmed with relevant person/s
 - 1.10 Third-party issues are referred to relevant person/s in accordance with workplace procedures
 - 1.11 Site preparation, safety plan and work schedule are confirmed with relevant person/s in accordance with workplace procedures
 - 1.12 Road signs, barriers and warning devices are positioned in accordance with job instructions, workplace procedures and traffic management plans
-
- 2 **Construct and lay nylon or PVC gas distribution mains**
 - 2.1 WHS/OHS risk control measures, schedules of work and workplace procedures for carrying out work are followed

- 2.2 Materials, tools, equipment and measuring devices required for the work are selected and used correctly and safely in accordance with manufacturer instructions and workplace procedures
 - 2.3 Hazardous activities are conducted safely in accordance with WHS/OHS workplace procedures and job instructions
 - 2.4 Excavation bed/trench is prepared for laying of nylon/PVC pipe in accordance with relevant industry standards and workplace procedures
 - 2.5 Construction and laying of nylon/PVC gas distribution mains is conducted in accordance with relevant industry standards and workplace procedures
 - 2.6 Work is carried out to the required standard, without waste of materials or damage to apparatus, circuits, and the surrounding environment or services using sustainable energy principles
 - 2.7 WHS/OHS risks, incidents and accidents are reported to authorised person/s for directions in accordance with workplace procedures
 - 2.8 Unplanned events are referred to authorised person/s for directions in accordance with workplace procedures
 - 2.9 Quality and safety checks of work and testing of pipework is carried out in accordance with industry standards, work instructions and workplace procedures
- 3 Complete the work and relevant documentation**
 - 3.1 WHS/OHS risk control measures for work completion are followed
 - 3.2 Relevant person/s are notified of work completion in accordance with workplace procedures
 - 3.3 Tools, equipment and any surplus resources and materials are cleaned, checked and securely stored in accordance with workplace procedures
 - 3.4 Work site is tidied and made safe in accordance with workplace procedures
 - 3.5 Relevant documentation is completed and provided to appropriate person/s in accordance with workplace procedures

Foundation Skills

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

Range of Conditions

Range is restricted to essential operating conditions and any other variables essential to the work environment.

Non-essential conditions may be found in the UEG Gas Industry Training Package Companion Volume Implementation Guide.

competency must be demonstrated by constructing and laying a distribution gas service to a metal main, including:

- laying and cutting pipes
- joining pipes and fittings
- installing the meter connection to the service user

Unit Mapping Information

This unit replaces and is equivalent to UEGNSG222A Construct and lay Nylon or PVC gas distribution mains.

Links

Companion Volume Implementation Guides are found in VETNet -
<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=6a6c032e-ffcb-4f3d-8063-415efbd261e8>

Assessment Requirements for UEGNSG222 Construct and lay nylon or PVC gas distribution mains

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 relevant industry standards, guidelines, codes of practice and regulations
- applying relevant work health and safety (WHS)/occupational health and safety (OHS) requirements
- applying sustainable energy and environmental principles and practices
- checking tools, equipment, plant and personal protective equipment (PPE) for correct operation and safety
- cleaning, checking and storing tools and equipment
- communicating effectively with others
- completing required documentation and reporting
- conducting quality and safety checks
- dealing with unplanned events/situations in accordance with workplace procedures in a manner that minimises risk to personnel and equipment
- identifying and correctly reading plans, drawings, manuals and diagrams
- identifying plant and equipment and safe operating parameters/requirements
- maintaining a clean work area
- obtaining relevant resources, tools, equipment and materials to conduct the work
- positioning road signs, barriers and warning devices
- preparing the excavation site
- preparing to construct and lay nylon or polyvinyl chloride (PVC) gas distribution mains
- testing pipework
- working in accordance with relevant work permit/notifications.

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:

- conditions for direct installation or insertion of nylon or PVC pipelines

- construction of nylon or PVC pipelines
- effective communication techniques
- environmental and sustainable energy principles and practices
- excavation/trenching and bedding requirements for nylon or PVC pipelines
- installation and testing of nylon or PVC pipelines
- nylon or PVC gas pipelines types, characteristics and components
- problem-solving techniques
- quality and safety checks
- relevant standards, legislation, codes and regulations
- relevant manufacturer specifications
- relevant materials, plans, diagrams, drawings and resources
- relevant materials, tools, equipment, plant, measuring devices and PPE
- relevant safe work method statements (SWMS)/job safety assessments or risk mitigation processes
- relevant WHS/OHS legislated requirements
- relevant work permits and/or notifications
- relevant workplace documentation
- relevant workplace policies and procedures
- relevant WHS/OHS legislated requirements, including:
 - hazards, risk assessment and control measures
 - dangers of working with live gas
- road signs, barriers, warning devices and traffic management plans
- site preparation, safety plans, job requirements and work schedules
- third-party issues.

Assessment Conditions

As a minimum, assessors must satisfy applicable regulatory requirements, which include requirements in the Standards for Registered Training Organisations current at the time of assessment.

As a minimum, assessment must satisfy applicable regulatory requirements, which include requirements in the Standards for Registered Training Organisations current at the time of assessment.

Assessment must occur in workplace operational situations where it is appropriate to do so; where this is not appropriate, assessment must occur in simulated workplace operational situations that replicate workplace conditions.

Assessment processes and techniques must be appropriate to the language, literacy and numeracy requirements of the work being performed and the needs of the candidate.

Resources for assessment must include access to:

- a range of relevant exercises, case studies and/or 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>

UEGNSG225 Perform routine maintenance on distribution pipeline facilities and equipment

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 perform routine maintenance on distribution pipeline facilities and equipment, complete work and relevant documentation.

It includes using equipment, tools and testing devices, performing routine maintenance and identifying faults.

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

Pre-requisite Unit

Not applicable.

Competency Field

Gas Distribution

Unit Sector

Gas Industry

Elements and Performance Criteria

ELEMENTS

Elements describe the essential outcomes.

1 Prepare for routine maintenance on distribution pipeline facilities and equipment

PERFORMANCE CRITERIA

Performance criteria describe the performance needed to demonstrate achievement of the element.

- 1.1** Work schedule/s, drawings, plans, job requirements and material lists are obtained and analysed in accordance with workplace procedures
- 1.2** Job requirements and workplace procedures are

identified for all work sites and communicated to relevant person/s

- 1.3** Work health and safety (WHS)/occupational health and safety (OHS) workplace procedures, environmental and sustainable energy policies and procedures for the work; facilities and equipment are identified, obtained and communicated to relevant person/s in accordance with workplace procedures
- 1.4** Work is prioritised and sequenced for completion within acceptable timeframes following consultation with relevant person/s in accordance with workplace procedures
- 1.5** Hazards are identified, WHS/OHS risks are assessed and control measures prioritised, implemented and monitored in accordance with workplace procedures
- 1.6** Facilities/equipment are safely isolated, depressurised, tagged and locked out and relevant permit/s to access and perform work are obtained in accordance with regulatory requirements and workplace procedures
- 1.7** Person/s, equipment, tools and personal protective equipment (PPE) required for the job are identified, scheduled, obtained and checked for correct operation and safety
- 1.8** Relevant person/s at worksite are confirmed to be current in first aid and other related work procedures, such as licensed to operate equipment in accordance with requirements
- 1.9** Communication with authorised persons, authorities, clients and land owners is conducted and work coordinated in accordance with work schedule and workplace procedure
- 1.10** Site is prepared to minimise risk and damage to property, commerce and individuals in accordance with work schedule and workplace procedures
- 1.11** Person/s participating in the work are briefed and responsibilities coordinated and confirmed in accordance with workplace procedures
- 1.12** Road signs, barriers and warning devices are positioned in accordance with job requirements, workplace

- procedures and traffic management plan
- 2 Perform routine maintenance on distribution pipeline facilities and equipment**
- 2.1** WHS/OHS risk control measures and environmental policies and procedures are followed in accordance with workplace procedures
- 2.2** Relevant materials, tools, equipment and measuring devices required for the maintenance are selected and used correctly and safely in accordance with manufacturer instructions and workplace procedures
- 2.3** Hazardous activities are conducted safely in accordance with job requirements and workplace procedures
- 2.4** Routine maintenance of distribution facilities and equipment is carried out in accordance with work schedule and workplace procedures
- 2.5** Hazard warnings and safety signs are recognised and hazards and WHS/OHS risks assessed and reported to authorised person/s for directions in accordance with workplace procedures
- 2.6** Unplanned events and non-routine problems are identified and actioned in accordance with workplace procedures
- 2.7** Fault-finding and troubleshooting techniques are applied to identify any routine maintenance required in accordance with job requirements and workplace procedures
- 2.8** Quality checks are undertaken in accordance with job instructions and workplace procedures
- 3 Complete work and relevant documentation**
- 3.1** Work undertaken is checked against work schedule for conformance and anomalies reported to relevant person/s in accordance with workplace procedures
- 3.2** Accidents and injuries are reported, as required, in accordance workplace procedures
- 3.3** Work site is rehabilitated, cleaned up and made safe in accordance with 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 work permit/s are signed off and facilities/equipment returned to service in accordance with job requirements and workplace procedures
- 3.6 Work completion records, documentation, reports as installed/modified drawings, are completed, processed and appropriate person/s notified in accordance with workplace procedures

Foundation Skills

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

Range of Conditions

Range is restricted to essential operating conditions and any other variables essential to the work environment.

Non-essential conditions may be found in the UEG Gas Industry Training Package Companion Volume Implementation Guide.

piping access procedures must include at least three (3) of the following:

- excavation
- trenching
- shoring
- stitch bore
- horizontal drilling
- directional drilling
- piping materials

piping materials must include at least two (2) of the following:

- nylon (polyamide) pipeline laying, joining and stop off techniques
- unplasticised (uPVC) pipeline laying, joining and stop off techniques
- polyethylene (PE) pipeline laying, joining and stop off techniques
- steel pipeline laying, joining and stop off techniques

isolation procedures must include at least two (2) of the following

- high pressure stop off
- bagtube
- squash off jacks
- squash off pliers

competency must be demonstrated in relation to performing routine maintenance on distribution pipeline facilities and equipment

- valves, actuators and flanges
- heaters and heat exchanger
- metering equipment

must include:

- process control equipment
- gas analysis equipment
- piping systems
- sumps and drains
- pressure vessels/filtration equipment
- pumping systems and equipment
- compression systems and equipment

Unit Mapping Information

This unit replaces and is equivalent to UEGNSG225A Perform routine maintenance on distribution pipeline facilities and equipment.

Links

Companion Volume Implementation Guides are found in VETNet -
<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=6a6c032e-ffcb-4f3d-8063-415efbd261e8>

Assessment Requirements for UEGNSG225 Perform routine maintenance on distribution pipeline facilities and equipment

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 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:
 - working safely with hazardous materials and equipment
 - hazard identification and reporting
 - implementing risk control measures
 - selecting and using correct personal protective equipment (PPE)
- applying sustainable energy and environmental principles and practices
- communicating with authorities and stakeholders
- completing work and relevant documentation
- conducting quality checks
- dealing with unplanned events/situations in accordance with workplace procedures in a manner that minimises risk to personnel and equipment
- following work schedule, safety plan and job requirements
- following workplace procedures
- interpreting technical drawings, plans and materials lists
- isolating, depressurising, tagging and locking out facilities/equipment
- obtaining relevant resources, tools, equipment and materials to conduct the work
- obtaining relevant work permits
- performing routine maintenance on distribution pipeline facilities and equipment
- positioning road signs, barriers and warning devices
- preparing and planning for routine maintenance on distribution pipeline facilities and equipment
- rehabilitating and maintaining a clean work site
- reporting anomalies.

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:

- communication and recording/reporting documentation requirements and procedures
- de-isolation all sources of energy, removal of tags and locks and return to normal operation requirements and procedures
- faults managed during routine maintenance
- hazardous activities, including:
 - lifting, climbing, working in confined spaces and aloft, and use of power tools
- isolation, depressurisation, tagging and lockout of pipeline facilities and equipment requirements and procedures, including:
 - valves, flanges, fittings, markers and signs
- maintenance activities requirements and procedures
- manufacturer specifications, manuals, part lists, calibration forms and checklists
- pipeline laying, joining and stop off techniques
- quality checks
- relevant industry standards, guidelines, codes of practice and regulations
- relevant tools, equipment and instruments
- relevant work permits
- relevant workplace documentation
- relevant workplace policies and procedures
- relevant WHS/OHS legislated requirements, including:
 - hazards, risk assessment and control measures
 - environmental and sustainable energy principles and practices
 - hazard warnings and safety signs
 - hazardous materials
 - PPE
 - relevant industry standards, guidelines, codes of practice and regulations
- site preparation, safety plans, job requirements and work schedules
- traffic management plans
- types of pipeline, facilities and equipment to be inspected and tested.

Assessment Conditions

As a minimum, assessors must satisfy applicable regulatory requirements, which include requirements in the Standards for Registered Training Organisations current at the time of assessment.

As a minimum, assessment must satisfy applicable regulatory requirements, which include requirements in the Standards for Registered Training Organisations current at the time of assessment.

Assessment must occur in workplace operational situations where it is appropriate to do so; where this is not appropriate, assessment must occur in simulated workplace operational situations that replicate workplace conditions.

Assessment processes and techniques must be appropriate to the language, literacy and numeracy requirements of the work being performed and the needs of the candidate.

Resources for assessment must include access to:

- a range of relevant exercises, case studies and/or 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>

UEGNSG226 Assist with the construction, laying and connection of gas distribution services to mains

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 assist with the construction, laying and connection of gas distribution service to mains

It includes constructing, laying and connecting a gas distribution service to mains, and completing relevant documentation whilst working under supervision. It also includes the use of relevant tools and equipment, and working safely in accordance with workplace procedures.

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

Pre-requisite Unit

Not applicable.

Competency Field

Gas Distribution

Unit Sector

Gas Industry

Elements and Performance Criteria

ELEMENTS

Elements describe the essential outcomes.

1 Prepare to assist construction and laying a service to a main

PERFORMANCE CRITERIA

Performance criteria describe the performance needed to demonstrate achievement of the element.

1.1 Work health and safety (WHS)/occupational health and safety (OHS) and environmental workplace procedures and risk control measures for the site are identified and applied

- 1.2 Job requirements and workplace procedures for the site are obtained and discussed with supervisor to confirm the work schedule
 - 1.3 Hazards are identified and reported to the supervisor to assess risks and control measures implemented in accordance with workplace procedures
 - 1.4 Scope of work and responsibility under relevant work permit/notification is obtained and confirmed with supervisor in accordance with job requirements and workplace procedures
 - 1.5 Equipment, plant, tools and personal protective equipment (PPE) required to construct, lay and connect gas services are identified, obtained and checked for operation and safety in accordance with workplace procedures
 - 1.6 Supervisor is consulted to ensure work is coordinated effectively with others involved
 - 1.7 Materials, plans, diagrams, drawings and resources required to construct, lay and connect gas services are obtained in accordance with workplace procedures
 - 1.8 Safety and emergency procedures for an incident at the work site are checked and confirmed with supervisor
 - 1.9 Third-party issues are referred to supervisor as required in accordance with workplace procedures
 - 1.10 Site preparation, safety plan and work schedule are confirmed with supervisor in accordance with workplace procedures
- 2 **Assist in the construction and laying of a service to a main**
 - 2.1 WHS/OHS and environmental risk control measures, schedule of work and workplace procedures for carrying out work are followed
 - 2.2 Materials, tools, equipment and measuring devices required for the work are selected and used correctly and safely in accordance with manufacturer instructions and workplace procedures
 - 2.3 Hazardous activities, including lifting, climbing, using power tools, and working in excavations and trenches are conducted safely in accordance with WHS/OHS workplace procedures and job instructions

	2.4 Assistance in preparing and trenching the excavation site for laying of pipe is provided in accordance with industry standards and workplace procedures 2.5 Assistance in constructing and laying of gas services is provided in accordance with industry standards and workplace procedures 2.6 Work is carried out to the required standard, without waste of materials or damage to apparatus, equipment, and the surrounding environment or services using sustainable energy principles 2.7 WHS/OHS risks, incidents, accidents and unplanned events are reported to the supervisor in accordance with workplace procedures 2.8 Quality and safety checks of work are carried out in accordance with work instructions and workplace procedures
3 Complete work and relevant documentation	3.1 WHS/OHS and environmental risk control measures for work completion are followed 3.2 Supervisor is notified of work completion in accordance with workplace procedures 3.3 Tools, equipment and any surplus resources/materials are cleaned, checked and securely stored in accordance with workplace procedures 3.4 Work site is tidied and made safe in accordance with workplace procedures 3.5 Relevant work documentation is completed and provided to the supervisor in accordance with workplace procedures

Foundation Skills

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

Range of Conditions

Range is restricted to essential operating conditions and any other variables essential to the work environment.

Non-essential conditions may be found in the UEG Gas Industry Training Package Companion Volume Implementation Guide.

Unit Mapping Information

This unit replaces and is equivalent to UEGNSG226A Assist with the construction, laying and connection of gas distribution services to mains.

Links

Companion Volume Implementation Guides are found in VETNet -
<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=6a6c032e-ffcb-4f3d-8063-415efbd261e8>

Assessment Requirements for UEGNSG226 Assist with the construction, laying and connection of gas distribution services to mains

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 and performance criteria on at least two separate occasions and include:

- applying controls for stray, static and induced electrical faults
- applying relevant industry standards, guidelines, codes of practice and regulations
- applying relevant work health and safety (WHS)/occupational health and safety (OHS) requirements
- applying sustainable energy and environmental principles and practices
- assisting in the construction and laying of a service to a main
- completing required documentation and reporting
- conducting quality and safety checks
- consulting supervisor to coordinate work
- identifying and correctly reading plans, drawings, manuals and diagrams
- identifying plant and equipment and safe operating parameters/requirements
- maintaining a clean work area
- minimising waste
- obtaining job requirements and work instructions
- obtaining relevant resources, tools, equipment and materials to conduct the work
- preparing the excavation site
- preparing to assist construction and laying a service to a main
- referring third-party issues to supervisor
- reporting WHS/OHS risks and incidents to supervisor
- reporting WHS/OHS risks, incidents, accidents and unplanned events to supervisor
- working in accordance with relevant work permit/notifications.

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:

- dangers of working with live gas
- dangers of working near plant
- controls for stray, static and induced electrical faults
- cutting, tapping and joining pipelines and fittings, including:
 - requirements under various conditions and inclement weather
 - methods, procedures and safety requirements
- effective communication techniques
- environmental and sustainable energy principles and practices
- gas service and gas main pipelines, including:
 - types and characteristics
 - pipe sizes
 - fittings
 - accessories
 - handling and storage
 - safety data sheets (SDS)
- hazards and hazardous activities in the workplace
- installation of service pipelines
- relevant legislation, industry standards, codes of practice and regulations, including relevant industry and technical standards
- relevant manufacturer instructions
- relevant materials, plans, diagrams, drawings and resources
- relevant materials, tools, equipment, plant, measuring devices and personal protective equipment (PPE)
- relevant safe work method statements (SWMS)/job safety assessments or risk mitigation processes
- relevant WHS/OHS legislated requirements
- relevant work permits and/or notifications
- relevant workplace documentation
- relevant workplace policies and procedures
- site preparation, safety plans, job requirements and work schedules
- techniques to minimise waste
- third-party issues
- transition fittings and adaptors to other piping materials
- trenching requirements for service pipelines, including:
 - bedding materials
 - trench width and depth
 - required coverage depth in various locations
 - pipeline support
 - backfilling/compacting requirements
 - surface reinstatement.

Assessment Conditions

As a minimum, assessors must satisfy applicable regulatory requirements, which include requirements in the Standards for Registered Training Organisations current at the time of assessment.

As a minimum, assessment must satisfy applicable regulatory requirements, which include requirements in the Standards for Registered Training Organisations current at the time of assessment.

Assessment must occur in workplace operational situations where it is appropriate to do so; where this is not appropriate, assessment must occur in simulated workplace operational situations that replicate workplace conditions.

Assessment processes and techniques must be appropriate to the language, literacy and numeracy requirements of the work being performed and the needs of the candidate.

Resources for assessment must include access to:

- a range of relevant exercises, case studies and/or 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>

UEGNSG227 Assist with the construction and laying of gas distribution mains

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 assist with constructing and laying gas distribution mains, and completing relevant documentation whilst working under supervision.

It includes the use of relevant tools and equipment, and working safely in accordance with workplace procedures.

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

Pre-requisite Unit

Not applicable.

Competency Field

Gas Distribution

Unit Sector

Gas Industry

Elements and Performance Criteria

ELEMENTS

Elements describe the essential outcomes.

1 Prepare to assist construction and laying gas distribution mains

PERFORMANCE CRITERIA

Performance criteria describe the performance needed to demonstrate achievement of the element.

- 1.1** Work health and safety (WHS)/occupational health and safety (OHS) and environmental workplace procedures and risk control measures for the site are identified and applied
- 1.2** Job requirements and workplace procedures for the site

are obtained and discussed with supervisor to confirm the work schedule

- 1.3** Hazards are identified and reported to the supervisor to assess risks and control measures implemented in accordance with workplace procedures
- 1.4** Scope of work and responsibility under the relevant work permit/notification is obtained and confirmed with supervisor in accordance with job requirements and workplace procedures
- 1.5** Equipment, plant, tools and personal protective equipment (PPE) required to construct and lay gas distribution mains are identified, obtained and checked for operation and safety in accordance with workplace procedures
- 1.6** Supervisor is consulted to ensure work is coordinated effectively with others involved
- 1.7** Materials, plans, diagrams, drawings and resources required to construct and lay gas distribution mains are obtained in accordance with workplace procedures
- 1.8** Safety and emergency procedures for an incident at the work site are checked and confirmed with supervisor
- 1.9** Third-party issues are referred to supervisor as required in accordance with workplace procedures
- 1.10** Site preparation, safety plan and work schedule are confirmed with supervisor in accordance with workplace procedures

2 Assist in the construction and laying of gas distribution mains

- 2.1** WHS/OHS and environmental risk control measures, schedule of work and workplace procedures for carrying out work are followed
- 2.2** Materials, tools, equipment and measuring devices required for the work are selected and used correctly and safely in accordance with manufacturer instructions and workplace procedures
- 2.3** Hazardous activities including lifting, climbing, using power tools, and working in excavations and trenches are conducted safely in accordance with WHS/OHS workplace procedures and job instructions

	2.4	Assistance in preparing and trenching the excavation for laying of pipe is provided in accordance with industry standards and workplace procedures
	2.5	Assistance in constructing and laying of gas distribution mains is provided in accordance with industry standards and workplace procedures
	2.6	Work is carried out to the required standard without waste of materials or damage to apparatus, equipment, and the surrounding environment or services using sustainable energy principles
	2.7	WHS/OHS risks, incidents, accidents and unplanned events are reported to the supervisor in accordance with workplace procedures
3 Complete the work and relevant documentation	3.1	WHS/OHS and environmental risk control measures for work completion are followed
	3.2	Supervisor is notified of work completion in accordance with workplace procedures
	3.3	Tools, equipment and any surplus resources/materials are cleaned, checked and securely stored in accordance with workplace procedures
	3.4	Work site is tidied and made safe in accordance with workplace procedures
	3.5	Relevant work documentation is completed and provided to the supervisor in accordance with workplace procedures

Foundation Skills

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

Range of Conditions

Range is restricted to essential operating conditions and any other variables essential to the work environment.

Non-essential conditions may be found in the UEG Gas Industry Training Package Companion Volume Implementation Guide.

Unit Mapping Information

This unit replaces and is equivalent to UEGNSG227A Assist with the construction and laying of gas distribution mains.

Links

Companion Volume Implementation Guides are found in VETNet -

<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=6a6c032e-ffcb-4f3d-8063-415efbd261e8>

Assessment Requirements for UEGNSG227 Assist with the construction and laying of gas distribution mains

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 and performance criteria on at least two separate occasions and include:

- applying controls for stray, static and induced electrical faults
- applying relevant industry standards, guidelines, codes of practice and regulations
- applying relevant work health and safety (WHS)/occupational health and safety (OHS) requirements
- applying sustainable energy and environmental principles and practices
- assisting in cutting, joining, laying, covering and connecting gas distribution services pipelines
- assisting in isolating, venting, purging and testing for soundness and leaks, and commissioning and making safe gas services
- assisting in the construction and laying of a service to a main
- communicating effectively with others
- completing required documentation and reporting
- completing work and relevant documentation
- conducting quality and safety checks
- consulting supervisor to coordinate work
- identifying and correctly reading plans, drawings, manuals and diagrams
- identifying plant and equipment and safe operating parameters/requirements
- maintaining a clean work area
- minimising waste
- obtaining job requirements and work instructions
- obtaining relevant resources, tools, equipment and materials to conduct the work
- preparing the excavation site
- preparing to assist construction and laying a service to a main
- referring third-party issues to supervisor
- reporting WHS/OHS risks and incidents to supervisor
- reporting WHS/OHS risks, incidents, accidents and unplanned events to supervisor
- working in accordance with relevant work permit/notifications.

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:

- dangers of working with live gas
- dangers of working near plant
- controls for stray, static and induced electrical faults
- cutting, tapping and joining pipelines and fittings, including:
 - requirements under various conditions and inclement weather
 - methods, procedures and safety requirements
- effective communication techniques
- environmental and sustainable energy principles and practices
- hazards and hazardous activities in the workplace
- installation of service pipelines
- relevant legislation, industry standards, codes of practice and regulations, including relevant industry and technical standards
- relevant manufacturer instructions
- relevant materials, plans, diagrams, drawings and resources
- relevant materials, tools, equipment, plant, measuring devices and personal protective equipment (PPE)
- relevant safe work method statements (SWMS)/job safety assessments or risk mitigation processes
- relevant WHS/OHS legislated requirements
- relevant work permits and/or notifications
- relevant workplace documentation
- relevant workplace policies and procedures
- site preparation, safety plans, job requirements and work schedules
- techniques to minimise waste
- third-party issues
- transition fittings and adaptors to other piping materials
- trenching requirements for service pipelines, including:
 - bedding materials
 - trench width and depth
 - required coverage depth in various locations
 - pipeline support
 - backfilling/compacting requirements
 - surface reinstatement.

Assessment Conditions

As a minimum, assessors must satisfy applicable regulatory requirements, which include requirements in the Standards for Registered Training Organisations current at the time of

assessment.

As a minimum, assessment must satisfy applicable regulatory requirements, which include requirements in the Standards for Registered Training Organisations current at the time of assessment.

Assessment must occur in workplace operational situations where it is appropriate to do so; where this is not appropriate, assessment must occur in simulated workplace operational situations that replicate workplace conditions.

Assessment processes and techniques must be appropriate to the language, literacy and numeracy requirements of the work being performed and the needs of the candidate.

Resources for assessment must include access to:

- a range of relevant exercises, case studies and/or 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>

UEGNSG229 Prepare simple drawings of as laid gas mains and services

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 produce drawings for as laid, new and altered gas installations, mains and services.

It includes preparing drawings of newly constructed or altered pipework that is required to be recorded for future locating.

This unit does not include complex drafting skills.

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

Pre-requisite Unit

Not applicable.

Competency Field

Gas Distribution

Unit Sector

Gas Industry

Elements and Performance Criteria

ELEMENTS

Elements describe the essential outcomes.

1 Plan to prepare simple drawings of as laid gas mains and services

PERFORMANCE CRITERIA

Performance criteria describe the performance needed to demonstrate achievement of the element.

- 1.1** Work health and safety (WHS)/occupational health and safety (OHS) workplace procedures and environmental measures for the site are identified, obtained and applied
- 1.2** Types of drawings required and key features, symbols

and abbreviations for each type of plan and drawing used in the gas industry are identified in accordance with the scope and standard of work being undertaken

- 1.3 Drawing requirements and needs are determined from work instructions and confirmed with relevant person/s in accordance with workplace procedures
 - 1.4 Client issues in relation to the drawing requirements are clarified and resolved in accordance with workplace procedures
 - 1.5 Equipment, tools and apparatus for producing drawings are identified, obtained and checked for correct operation prior to commencing work
 - 2 **Prepare drawings of as laid gas mains and services**
 - 2.1 Site inspection is conducted, as required, and factors that may impact on technical drawings, including orientation, altering landscapes, building structures or temporary land marks are identified
 - 2.2 Starting point and cross reference points are established and measurements from the starting point, distances and off sets taken and recorded in accordance with job requirements and workplace procedures
 - 2.3 As laid pipework is drawn to scale on graph paper using industry standard drawing conventions in accordance with relevant codes and technical industry standards
 - 2.4 Fittings that effect the off-set or depth of the pipework, including elbows and tees, are indicated on the drawing as required
 - 2.5 Additional fittings that need to be recorded in line with drawing specifications, including in-line valves and tapping tees, are indicated on the drawing, as required
 - 2.6 All dimensions, including off-sets, distances, directions, pipe diameter, symbols and abbreviations are included on the drawing in accordance with job specifications and workplace procedures
 - 2.7 Standard drawing conventions are used to correct original job drawing to show final as laid arrangement in accordance with workplace procedures
 - 2.8 Quality and safety checks of work and testing of pipework is conducted in accordance with industry

- standards, work instructions and workplace procedures
- 3 Complete work and relevant documentation**
- 3.1** Additional documentation is completed, including district plan number, network area, street name, pressure ratings, pipe size and type, date laid and additional comments, as required, in accordance with job requirements
 - 3.2** Drawings are finalised and signed off/closed in accordance with workplace procedures
 - 3.3** Tools, equipment and any surplus resources and materials are cleaned, checked and securely stored in accordance with workplace procedures
 - 3.4** Appropriate person/s are notified of work completion in accordance with workplace procedures
 - 3.5** All drawings and forms are completed and submitted to appropriate person/s in accordance with workplace procedures

Foundation Skills

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

Range of Conditions

Range is restricted to essential operating conditions and any other variables essential to the work environment.

Non-essential conditions may be found in the UEG Gas Industry Training Package Companion Volume Implementation Guide.

Unit Mapping Information

This unit replaces and is equivalent to UEGNSG229A Prepare simple drawings of as laid gas mains and services.

Links

Companion Volume Implementation Guides are found in VETNet - <https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=6a6c032e-ffcb-4f3d-8063-415efbd261e8>

Assessment Requirements for UEGNSG229 Prepare simple drawings of as laid gas mains and services

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 and performance criteria on at least two separate occasions and include:

- applying relevant work health and safety (WHS)/occupational health and safety (OHS) requirements
- applying sustainable energy and environmental principles and practices
- completing work and relevant documentation
- completing relevant details on the drawing, including:
 - pipe size
 - pressure range
 - location
 - diameter
 - material
 - fittings
 - off-sets
 - distances
- conducting site inspections
- dealing with unplanned events/situations in accordance with workplace procedures in a manner that minimises risk to personnel and equipment
- determining cross reference points
- drawing as laid pipework to represent appropriate scale, perspective, dimension and volume
- finalising drawings
- identifying various gas pressures
- identifying coding for different pressures
- identifying various pipe materials
- interpreting symbols and abbreviations
- identifying and interpreting relevant gas drawings, including:
 - district plans
 - mains detail plans
 - industrial services plans

- gas easement drawings
- transmission pipeline plans
- identifying and interpreting relevant plans, including:
 - Dial Before You Dig plans
 - drain plans
 - power plans
 - telecommunication plans
 - water plans
- preparing drawing of a gas main or service
- using legend to determine specifications.

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:

- as laid technical drawings for gas pipework
- cross reference points
- different gas related drawings, including:
 - district plans
 - industrial drawings
 - easement drawings
 - gas mains detail plans
 - gas pipeline route maps and alignment sheets
- drawing conventions and features
- factors that may impact on technical drawings, including:
 - orientation
 - altering landscapes
 - building structures
 - temporary land marks
- fittings that effect the off-set or depth of the pipework
- gas mains and services as laid drawings
- key features, symbols and abbreviations on site plans
- measuring devices to record off-sets
- problem-solving techniques
- relevant drawing equipment, tools, materials, drawings and personal protective equipment (PPE)
- relevant legislation, standards, codes, regulations and procedure requirements
- relevant manufacturer specifications
- relevant WHS/OHS legislated requirements, including:
 - hazard identification and reporting

- implementing risk control measures
- relevant workplace documentation, drawings and forms
- relevant workplace policies and 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 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>

UEGNSG305 Coordinate gas transmission pipeline repairs and modifications

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 coordinate and conduct gas transmission pipeline repairs and modifications.

It includes identifying and attending to leaks which may be classified into Class 1-4, and coordinating and undertaking the repair or modification and minor maintenance of equipment, as required. It also includes inspecting and testing and re-establishing/recommissioning transmission pipeline to operational conditions and completing relevant documentation.

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

Pre-requisite Unit

Not applicable.

Competency Field

Gas Transmission

Unit Sector

Gas Industry

Elements and Performance Criteria

ELEMENTS

Elements describe the essential outcomes.

1 Plan for the coordination of repairs and modifications of a gas transmission pipeline

PERFORMANCE CRITERIA

Performance criteria describe the performance needed to demonstrate achievement of the element.

- 1.1** Identified repair/modification is communicated to all parties and work schedule/s, drawings, plans, job requirements and material lists are obtained, analysed and confirmed, as necessary, by site inspection

- 1.2** Plans, job specifications, other relevant information and workplace procedures for the work are obtained for all work sites and communicated to relevant person/s in accordance with workplace procedures
- 1.3** Work health and safety (WHS)/occupational health and safety (OHS), environmental and sustainable energy policies and workplace procedures are obtained and communicated to relevant person/s to ensure safe systems of work are followed
- 1.4** Work is prioritised and sequenced for completion within acceptable timeframes following consultation with others in accordance with workplace procedures
- 1.5** Hazards and WHS/OHS risks are identified, assessed and prioritised, and control measures implemented and monitored in accordance with workplace procedures
- 1.6** Relevant work permits are obtained to access, isolate/de-energise systems and perform the work in accordance with regulatory requirements and workplace procedures
- 1.7** Resources, including person/s, equipment, tools and personal protective equipment (PPE), required for the job are identified, scheduled, obtained and checked for correct operation and safety in accordance with workplace procedures
- 1.8** Responsibilities for first aid and other emergency incidents at the work site are confirmed with relevant person/s in accordance with workplace procedures
- 1.9** Communication issues with authorised persons, authorities, clients and land owners are resolved and work coordinated in accordance with workplace procedures
- 1.10** Site is prepared to minimise risk and damage to property, commerce and individuals in accordance with workplace procedures, job requirements and the work schedule
- 1.11** Persons participating in the work, including plant operators and contractors, are briefed and responsibilities confirmed in accordance with job requirements and workplace procedures

	1.12	Road signs, barriers and warning devices are positioned in accordance with job requirements and traffic management plan
2 Coordinate and conduct repairs or modifications for gas transmission pipelines	2.1	WHS/OHS policies and procedures and safe work practices are followed to eliminate or minimise incidents and hazards
	2.2	Hazardous activities are performed safely and currency maintained, as required, in accordance with regulatory requirements and workplace procedures
	2.3	Gas transmission pipeline repairs and modifications are coordinated to ensure completion in agreed timeframe, to industry standards and with a minimum of waste in accordance with job requirements
	2.4	Gas transmission pipeline repairs and modifications are carried out in accordance with the work schedule and workplace procedures
	2.5	Hazard warnings and safety signs are recognised and hazards and WHS/OHS risks assessed and reported to authorised person/s for directions in accordance with workplace procedures
	2.6	Pipeline repair/modification work is conducted and monitored and unplanned events, amendments and modifications in the pipeline repair are undertaken in accordance with workplace procedures
	2.7	Solutions to unplanned events and non-routine problems are identified and actioned in accordance with requirements
	2.8	Inspecting and testing procedures are followed and quality and safety checks undertaken in accordance with job instructions and workplace procedures
3 Re-establish transmission pipeline to operational conditions and complete relevant documentation	3.1	System is re-established to meet transmission pipeline requirements and work undertaken checked against work schedule for conformance and anomalies reported in accordance with workplace procedures
	3.2	Accidents and injuries are reported, as required, in accordance with workplace procedures
	3.3	Work site is rehabilitated, cleaned up and made safe in

accordance with 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 work permit/s are signed off and pipeline is returned to service in accordance with job requirements and workplace procedures
- 3.6 Records and drawings are updated to reflect repair/modifications and work completion records, reports as installed and relevant documentation completed, processed and appropriate person/s notified in accordance with workplace procedures

Foundation Skills

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

Range of Conditions

Range is restricted to essential operating conditions and any other variables essential to the work environment.

Non-essential conditions may be found in the UEG Gas Industry Training Package Companion Volume Implementation Guide.

Unit Mapping Information

This unit replaces and is equivalent to UEGNSG305B Coordinate gas transmission pipeline repair and modifications.

Links

Companion Volume Implementation Guides are found in VETNet -
<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=6a6c032e-ffcb-4f3d-8063-415efbd261e8>

Assessment Requirements for UEGNSG305 Coordinate gas transmission pipeline repairs and modifications

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 and performance criteria on at least two separate occasions and include:

- applying relevant industry standards, guidelines, codes of practice and regulations
- applying relevant work health and safety (WHS)/occupational health and safety (OHS) requirements, including:
 - applying sustainable energy and environmental principles and practices
 - ensuring emergency response procedures are in place
 - hazard identification and reporting
 - implementing risk control measures
 - selecting and using correct personal protective equipment (PPE)
 - work safely with hazardous materials and equipment
- carrying out sign-off procedures
- communicating instructions/schedules
- communicating with other authorities and relevant stakeholders
- completing relevant reports, records and documentation
- completing work and relevant documentation, records, reports and drawings
- conducting briefings
- conducting final inspections of repairs/modifications
- conducting quality and safety checks
- coordinating repairs or modifications for gas transmission pipelines
- dealing with unplanned events/situations in accordance with workplace procedures in a manner that minimises risk to personnel and equipment
- following workplace procedures
- identifying repairs/modifications
- inspecting and testing equipment
- interpreting technical drawings, plans and materials lists
- isolating/de-energising systems
- liaising and communicating with relevant parties
- monitoring pipeline system during repair work
- obtaining approvals from relevant authorities

- obtaining relevant work permits
- operating gas detector
- planning for the coordination of repairs and modifications of gas transmission pipeline
- positioning road signs, barriers and warning devices
- recommissioning/ re-establishing pipeline, including re-establishing transmission pipeline to operational condition
- rehabilitating/reinstating work site
- testing of repairs is checked/completed
- updating drawings/plans to reflect repairs/modifications.

Knowledge Evidence

Evidence required to demonstrate competence in this unit must be relevant to and satisfy all of the requirements of the elements and performance criteria and include knowledge of:

- appropriate tools and equipment to inspect and test the pipeline system
- hazardous activities, including lifting, climbing, working in confined spaces and aloft
- information relevant to pipeline repair and modification
- inspecting and testing procedures
- preparation for testing and inspection of pipeline system
- preparation of work site for repairs/modifications work
- problem-solving techniques
- record maintenance procedures
- relevant industry standards, guidelines, codes of practice and regulations
- relevant manufacturer specifications
- relevant safe work method statements (SWMS)/job safety assessments or risk mitigation processes
- relevant technical drawings, plans, material lists or specifications
- relevant WHS/OHS legislated requirements, including:
 - hazards, risk assessment and control measures
 - environmental and sustainable energy principles and practices
- relevant workplace documentation
- relevant workplace policies and procedures
- repair work and amendments or modifications
- requirements for recording and interpreting test data
- site inspection procedures
- traffic management plans
- transmission pipeline repairs and modifications.

Assessment Conditions

As a minimum, assessors must satisfy applicable regulatory requirements, which include requirements in the Standards for Registered Training Organisations current at the time of

assessment.

As a minimum, assessment must satisfy applicable regulatory requirements, which include requirements in the Standards for Registered Training Organisations current at the time of assessment.

Assessment must occur in workplace operational situations where it is appropriate to do so; where this is not appropriate, assessment must occur in simulated workplace operational situations that replicate workplace conditions.

Assessment processes and techniques must be appropriate to the language, literacy and numeracy requirements of the work being performed and the needs of the candidate.

Resources for assessment must include access to:

- a range of relevant exercises, case studies and/or 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>

UEGNSG310 Supervise and monitor contract work

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 supervise and monitor contractors.

It includes providing information, guidance and direction to contractors to conduct their duties.

This unit does not include the technical expertise required to perform the services, but focuses on supervising and monitoring the process from a contractor management perspective.

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

Pre-requisite Unit

Not applicable

Competency Field

Gas Transmission

Unit Sector

Gas Industry

Elements and Performance Criteria

ELEMENTS

Elements describe the essential outcomes.

1 Prepare to supervise and monitor contract staff

PERFORMANCE CRITERIA

Performance criteria describe the performance needed to demonstrate achievement of the element.

1.1	Work schedule/s, drawings, plans, job requirements and material lists are obtained and analysed and site inspection conducted, as necessary, to determine the preparation work required for planning and coordination
1.2	Work is prioritised and sequenced for completion within acceptable timeframes following consultation with

relevant person/s in accordance with workplace procedures

- 1.3** Hazards and work health and safety (WHS)/occupational health and safety (OHS) risks are assessed and control measures implemented and monitored in accordance with workplace procedures
- 1.4** Job requirements and workplace procedures for the work are obtained for work sites and communicated to relevant person/s, including contract staff
- 1.5** WHS/OHS, environmental and sustainable energy policies and procedures are obtained for the work being performed and communicated to relevant person/s including contract staff
- 1.6** Relevant work permit/s are obtained to access and perform the work in accordance with regulatory and job requirements and workplace procedures
- 1.7** Person/s, equipment, tools and personal protective equipment (PPE) required for the job are identified, scheduled, obtained and checked for correct operation and safety in accordance with workplace procedures
- 1.8** Contractual requirements of person/s performing the work, including relevant qualifications, competency, currency, licenses, site induction and condition of equipment are confirmed in accordance with workplace procedures
- 1.9** First aid officer at the work site is confirmed in accordance with job requirements and workplace procedures
- 1.10** Communication issues with relevant stakeholders are resolved and work coordinated in accordance with work schedule and workplace procedures
- 1.11** Person/s participating in the work, including contract staff, are briefed and responsibilities coordinated and authorised in accordance with workplace procedures
- 1.12** Site is prepared to minimise risk and damage to property, commerce and individuals in accordance with work schedule and workplace procedures
- 1.13** Road signs, barriers and warning devices are positioned in accordance with job requirements and traffic

- management plan
- 2 Monitor and supervise contractor activities**
- 2.1** WHS/OHS risk control measures and policies and procedures are followed in accordance with workplace procedures
- 2.2** Hazardous activities are safely conducted by contractors in accordance with job instructions, regulatory requirements and workplace procedures
- 2.3** Contractor activities are monitored and supervised to ensure job completion in agreed timeframes and to industry standards with a minimum of waste in accordance with job requirements and workplace procedures
- 2.4** Contractor activity is supervised in accordance with the work schedule and workplace procedures
- 2.5** Hazard warnings and safety signs are recognised, hazards and WHS/OHS risks and incidents are assessed and reported to authorised person/s for directions in accordance with workplace procedures
- 2.6** Unplanned events encountered when monitoring and supervising contractor activity are identified and actioned in accordance with requirements and workplace procedures
- 2.7** Problem-solving and troubleshooting techniques are applied to problems encountered when monitoring and supervising contractor activity
- 2.8** Quality and safety checks of the contractor work are undertaken in accordance with job and regulatory requirements and workplace procedures
- 3 Complete monitoring and supervision records**
- 3.1** Inspection of the contract job is checked against work schedule for conformance with job requirements and anomalies reported in accordance with workplace procedures
- 3.2** Accidents and injuries are reported and followed up in accordance with requirements and workplace procedures
- 3.3** Waste materials are safely disposed of and work site is rehabilitated/cleaned up and made safe in accordance with 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 work permit/s are signed off and equipment returned to service in accordance with job and regulatory requirements and workplace procedures
- 3.6 Data is recorded and work completion records, reports and as installed/modified drawings and documentation are completed, processed and appropriate person/s notified in accordance with workplace procedures

Foundation Skills

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

Range of Conditions

Range is restricted to essential operating conditions and any other variables essential to the work environment.

Non-essential conditions may be found in the UEG Gas Industry Training Package Companion Volume Implementation Guide.

Unit Mapping Information

This unit replaces and is equivalent to UEGNSG310B Supervise and monitor contract work.

Links

Companion Volume Implementation Guides are found in VETNet -
<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=6a6c032e-ffcb-4f3d-8063-415efbd261e8>

Assessment Requirements for UEGNSG310 Supervise and monitor contract work

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 and performance criteria on at least two separate occasions and include:

- applying decision-making and conflict resolution techniques, including applying problem solving and troubleshooting techniques
- applying planning and organisational skills, including
 - checking work against work schedule/plan
 - working to timeframes
- applying relevant industry standards, guidelines, codes of practice, legislation and regulations
- applying relevant work health and safety (WHS)/occupational health and safety (OHS) requirements, including:
 - emergency response procedures
 - hazard identification and reporting
 - implementing risk control measures
 - maintaining a safe clean workplace
 - selecting correct personal protective equipment (PPE)
- applying sustainable energy and environmental principles and practices
- communicating work schedules and job requirements, including communicating with relevant stakeholders, resolving communication issues and conducting briefings
- coordinating person/s and contractors
- dealing with unplanned events/situations in accordance with workplace procedures in a manner that minimises risk to personnel and equipment
- following traffic management plans
- following workplace procedures
- inspecting the contract work upon completion
- interpreting technical drawings, plans, job requirements and material lists
- maintaining relevant documentation, including completing, monitoring and supervision records
- minimising waste
- obtaining and complying with relevant work permits
- supervising and monitoring contract staff, including monitoring and supervising contractor

activities, conducting quality and safety checks, and confirming contractual requirements of contract staff.

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:

- communication techniques required in supervisory roles
- contractual requirements of contract staff
- gas industry drawings, plans and material lists
- gas industry products, processes and characteristics
- operation of relevant industry plant, equipment and materials
- oral and written communication techniques
- planning and organising techniques and relevant timeframes
- preparation of an excavation site
- problem-solving techniques, including decision making and conflict resolution techniques
- quality and safety checks
- relevant stakeholders, including:
 - authorised persons, authorities, clients and land owners and tenants
 - emergency response organisations
 - regulatory bodies
 - relevant customers and suppliers
 - transmission pipeline contract staff
 - workplace colleagues and managers
- relevant WHS/OHS legislated requirements, including:
 - environmental and sustainable energy principles and practices
 - first aid requirements for gas industry supervisors
 - hazard warnings and safety signs
 - hazardous activities, including lifting, climbing, working in confined spaces and aloft, and use of power tools
 - hazardous materials
 - hazards, risk assessment and control measures
 - PPE
 - relevant safe work method statements (SWMS)/job safety assessments or risk mitigation processes
 - relevant work permits
 - responding to emergency and accident situations
 - safe manual handling techniques
 - traffic management plan
- relevant gas industry documents
- relevant industry standards, guidelines, codes of practice and regulations

- relevant manufacturer specifications
- relevant workplace documentation, forms and reports
- relevant workplace policies and procedures
- requirements for reinstating and rehabilitating a work site
- site inspections
- techniques to locate utilities and services include site preparation.

Assessment Conditions

As a minimum, assessors must satisfy applicable regulatory requirements, which include requirements in the Standards for Registered Training Organisations current at the time of assessment.

As a minimum, assessment must satisfy applicable regulatory requirements, which include requirements in the Standards for Registered Training Organisations current at the time of assessment.

Assessment must occur in workplace operational situations where it is appropriate to do so; where this is not appropriate, assessment must occur in simulated workplace operational situations that replicate workplace conditions.

Assessment processes and techniques must be appropriate to the language, literacy and numeracy requirements of the work being performed and the needs of the candidate.

Resources for assessment must include access to:

- a range of relevant exercises, case studies and/or 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>

UEGNSG314 Liaise with third party and the community to maintain pipeline integrity and community safety

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 liaise with third parties and the community for purposes of maintaining the integrity of a transmission pipeline.

It includes third-party liaison, completing relevant documentation, providing community awareness, communicating, implementing a communication strategy and applying negotiating skills.

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

Pre-requisite Unit

Not applicable

Competency Field

Gas Transmission

Unit Sector

Gas Industry

Elements and Performance Criteria

ELEMENTS

Elements describe the essential outcomes.

- 1 Plan to liaise with third parties and the community to maintain pipeline integrity and community safety**

PERFORMANCE CRITERIA

Performance criteria describe the performance needed to demonstrate achievement of the element.

- 1.1** Work schedule/s, drawings, plans, job requirements materials and equipment are obtained and analysed to determine the extent of preparation required for planning

- 1.2 Work is prioritised and sequenced for completion within acceptable timeframes following consultation with relevant stakeholders in accordance with workplace procedures
 - 1.3 Hazards and work health and safety (WHS)/occupational health and safety (OHS) risks are identified and prioritised and control measures implemented and monitored
 - 1.4 Job requirements and workplace procedures for the work are obtained for all work sites and communicated to relevant person/s
 - 1.5 WHS/OHS, environmental and sustainable energy policies and procedures are obtained to ensure safe systems of work are followed in accordance with workplace procedures
 - 1.6 Relevant work permit/s are obtained in accordance with job and regulatory requirements and workplace procedures
 - 1.7 Person/s, equipment, tools and personal protective equipment (PPE) required for the job are identified, scheduled, obtained and checked for correct operation and safety in accordance with workplace procedures
 - 1.8 Clients are provided with possible solutions and options within the scope, acceptable cost and requirements
 - 1.9 Communication issues with relevant stakeholders are resolved and work/activities coordinated in accordance with work schedule and workplace procedures
 - 1.10 Person/s participating in the work are briefed and responsibilities coordinated and authorised in accordance with workplace procedures
 - 1.11 System status is confirmed through communication with pipeline control centre in accordance with workplace procedures
- 2 **Conduct third party and community liaison to maintain pipeline integrity and community safety**
 - 2.1 WHS/OHS risk control measures and policies and procedures are followed in accordance with workplace procedures
 - 2.2 Analysis of information to identify key issues is

- undertaken and information evaluated for relevance and validity to the requirements
- 2.3 Hazardous activities are safely conducted in accordance with job instructions, regulatory requirements and workplace procedures
 - 2.4 Pipeline equipment and systems are inspected and tested and faults identified in accordance with work schedule, job requirements and workplace procedures
 - 2.5 Hazard warnings and safety signs are recognised, hazards WHS/OHS risks are assessed and reported to authorised person/s for directions in accordance with workplace procedures
 - 2.6 Liaison and communication with relevant stakeholders is conducted to ensure pipeline integrity is maintained and job completed to industry standards with a minimum of waste in accordance with job requirements and workplace procedures
 - 2.7 Problem-solving and troubleshooting techniques are applied to problems encountered when liaising with third parties and the community
 - 2.8 Quality and safety checks of the work are undertaken in accordance with job requirements, workplace procedures and community and industry standards
- 3 Finalise third party and community liaison and complete relevant workplace documentation**
- 3.1 Work undertaken is checked against work schedule for conformance and anomalies and proposed solutions reported to relevant person/s in accordance with workplace procedures
 - 3.2 Accidents and injuries are reported and followed up in accordance with requirements and workplace procedures
 - 3.3 Tools, equipment and any surplus resources and materials are cleaned, checked and returned to storage in accordance with workplace procedures
 - 3.4 Relevant work permit/s are signed off accordance with job and regulatory requirements and workplace procedures
 - 3.5 Work completion records, reports and as installed/modified drawing/s and documentation are completed, processed and the appropriate person/s

notified in accordance with workplace procedures

Foundation Skills

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

Range of Conditions

Range is restricted to essential operating conditions and any other variables essential to the work environment.

Non-essential conditions may be found in the UEG Gas Industry Training Package Companion Volume Implementation Guide.

Unit Mapping Information

This unit replaces and is equivalent to UEGNSG314B Liaise with third party and the community to maintain pipeline integrity and community safety.

Links

Companion Volume Implementation Guides are found in VETNet -
<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=6a6c032e-ffcb-4f3d-8063-415efbd261e8>

Assessment Requirements for UEGNSG314 Liaise with third party and the community to maintain pipeline integrity and community safety

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 and performance criteria on at least two separate occasions and include:

- applying decision-making and conflict resolution techniques
- applying problem-solving and troubleshooting techniques
- applying relevant industry standards, guidelines, codes of practice, legislation and regulations
- applying relevant work health and safety (WHS)/occupational health and safety (OHS) requirements, including:
 - emergency response procedures
 - hazard identification and reporting
 - implementing risk control measures
 - maintaining a safe clean workplace
 - selecting correct personal protective equipment (PPE)
- completing relevant workplace documentation
- conducting briefings
- conducting quality and safety checks
- conducting third party and community liaison to maintain pipeline integrity and community safety
- confirming system status
- finalising third party and community liaison
- following workplace procedures
- inspecting and testing pipeline equipment and systems
- interpreting technical drawings, plans and job requirements
- minimising waste
- obtaining and complying with relevant work permit
- planning to liaise with third parties and the community to maintain pipeline integrity and community safety
- providing solutions to clients
- working to timeframes.

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:

- gas industry drawings, plans and materials
- gas industry products, processes and characteristics
- hazardous activities, including lifting, climbing, working in confined spaces and aloft, and use of power tools
- operation of relevant industry plant, equipment and materials
- oral and written communication techniques
- problem-solving, decision-making and conflict resolution techniques
- quality and safety checks
- relevant industry standards, guidelines, codes of practice and regulations
- relevant safe work method statements (SWMS)/job safety assessments or risk mitigation processes
- relevant stakeholders, including:
 - authorised persons, authorities, clients and land owners and tenants
 - emergency response organisations
 - regulatory bodies
 - relevant customers and suppliers
 - workplace colleagues and managers
- relevant WHS/OHS legislated requirements, including:
 - hazards, risk assessment and control measures
 - environmental and sustainable energy principles and practices
 - PPE
 - hazard warnings and safety signs
- relevant work permits
- relevant workplace documentation, forms and reports
- relevant workplace policies and procedures
- transmission pipeline integrity and safety.

Assessment Conditions

As a minimum, assessors must satisfy applicable regulatory requirements, which include requirements in the Standards for Registered Training Organisations current at the time of assessment.

As a minimum, assessment must satisfy applicable regulatory requirements, which include requirements in the Standards for Registered Training Organisations current at the time of assessment.

Assessment must occur in workplace operational situations where it is appropriate to do so; where this is not appropriate, assessment must occur in simulated workplace operational situations that replicate workplace conditions.

Assessment processes and techniques must be appropriate to the language, literacy and numeracy requirements of the work being performed and the needs of the candidate.

Resources for assessment must include access to:

- a range of relevant exercises, case studies and/or 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>

UEGNSG326 Coordinate and monitor staff and contractors

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 coordinate and monitor staff and contractors working on a transmission pipeline construction worksite.

It includes providing information, guidance and direction to staff and contractors to conduct their duties.

This unit does not include the technical expertise required to perform the services, but focuses on supervising, coordinating and monitoring the process from a work supervision and contractor management perspective.

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

Pre-requisite Unit

Not applicable.

Competency Field

Gas Transmission

Unit Sector

Gas Industry

Elements and Performance Criteria

ELEMENTS

Elements describe the essential outcomes.

1 Prepare to coordinate and monitor staff and contractors

PERFORMANCE CRITERIA

Performance criteria describe the performance needed to demonstrate achievement of the element.

1.1 Work schedule/s, drawings, plans, job requirements, and material lists are obtained and analysed and site inspection conducted, as necessary, to determine the preparation work required for planning and coordination

- 1.2** Contractor obligations, including relevant insurance, plant, and work health and safety (WHS)/occupational health and safety (OHS) requirements, are identified and confirmed in accordance with workplace procedures
- 1.3** Transmission pipeline work is prioritised and sequenced for completion within acceptable timeframes following consultation with relevant person/s in accordance with workplace procedures
- 1.4** Hazards and WHS/ OHS risks are assessed and control measures implemented and monitored in accordance with workplace procedures
- 1.5** Job requirements and workplace procedures for the work are obtained for all work sites and communicated to staff and contractors
- 1.6** WHS/OHS, environmental, cultural and sustainable energy policies and procedures are obtained for the work being performed and communicated to staff and contractors
- 1.7** Relevant work permit/s are checked to ensure that transmission pipeline work is conducted in accordance with regulatory and job requirements and workplace procedures
- 1.8** Person/s, equipment, tools and personal protective equipment (PPE) required for the job are identified and scheduled in accordance with project management plan/s
- 1.9** Contractual requirements of person/s performing the work, including relevant qualifications, competency, currency, licenses, site induction and condition of equipment, are confirmed in accordance with workplace procedures
- 1.10** Access for work crews to first aid personnel and amenities is confirmed in accordance with requirements and workplace procedures
- 1.11** Communication issues with relevant stakeholders are resolved and work coordinated in accordance with work schedule and workplace procedures
- 1.12** Staff and contractors participating in the transmission pipeline work are briefed and responsibilities

		coordinated and authorised in accordance with workplace procedures
	1.13	Site is prepared to minimise risk and damage to property, commerce and individuals in accordance with work schedule and workplace procedures
	1.14	Road signs, barriers and warning devices are positioned in accordance with job requirements and traffic management plan
2 Coordinate and monitor staff and contractor activity	2.1	WHS/OHS risk control measures and policies and procedures are followed by all personnel in accordance with workplace procedures
	2.2	Hazardous activities are safely conducted by staff and contractors in accordance with job instructions, regulatory requirements and workplace procedures
	2.3	Staff and contractor activities are coordinated and monitored to ensure job completion in agreed timeframes and to industry standards with a minimum of waste in accordance with workplace procedures
	2.4	Staff and contractor activity on the transmission pipeline is carried out in accordance with the work schedule and workplace procedures
	2.5	Hazard warnings and safety signs are recognised, hazards and WHS/OHS risks and incidents are assessed and reported in accordance with workplace procedures
	2.6	Unplanned events encountered when coordinating and monitoring staff and contractor activity are identified and actioned in accordance with job requirements, emergency management plan and workplace procedures
	2.7	Problem-solving and troubleshooting techniques are applied to problems encountered when monitoring and supervising contractor activity and communication with stakeholders
	2.8	Quality and safety checks of the transmission pipeline work are undertaken in accordance with job and regulatory requirements and workplace procedures
2 Complete work and relevant workplace documentation	3.1	Inspection of the transmission pipeline job is checked against work schedule for conformance with job requirements and anomalies are reported in accordance

with workplace procedures

- 3.2 Accidents and injuries are reported and followed up in accordance with requirements and workplace procedures
- 3.3 Waste materials are safely disposed of and work site is rehabilitated, cleaned up and made safe in accordance with 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 work permit/s are signed off and equipment returned to service in accordance with job and regulatory requirements and workplace procedures
- 3.6 Data is recorded and work completion records, reports drawings, documentation and any other relevant information is completed and processed in accordance with workplace procedures

Foundation Skills

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

Range of Conditions

Range is restricted to essential operating conditions and any other variables essential to the work environment.

Non-essential conditions may be found in the UEG Gas Industry Training Package Companion Volume Implementation Guide.

Unit Mapping Information

This unit replaces and is equivalent to UEGNSG326A Coordinate and monitor staff and contractors.

Links

Companion Volume Implementation Guides are found in VETNet -
<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=6a6c032e-ffcb-4f3d-8063-415efbd261e8>

Assessment Requirements for UEGNSG326 Coordinate and monitor staff and contractors

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 and performance criteria on at least two separate occasions and include:

- applying decision-making and conflict resolution techniques, including problem-solving and troubleshooting techniques
- applying planning and organising skills, including checking work against work schedule/plan and working to timeframes
- applying relevant industry standards, guidelines, codes of practice, legislation and regulations
- applying relevant work health and safety (WHS)/occupational health and safety (OHS) requirements, including:
 - emergency response procedures
 - following traffic management plan
 - hazard identification and reporting
 - implementing risk control measures
 - maintaining a safe clean workplace
 - selecting correct personal protective equipment (PPE)
- applying sustainable energy and environmental principles and practices
- communicating with relevant stakeholders, including communicating work schedules and job requirements, and resolving communication issues
- completing work and relevant documentation, including maintaining relevant documentation
- conducting quality and safety checks, including confirming contractual requirements of contract staff, coordinating and monitoring staff and contractor activities
- dealing with unplanned events/situations in accordance with workplace procedures in a manner that minimises risk to personnel and equipment
- following workplace procedures
- interpreting technical drawings, plans, job requirements and material lists
- minimising waste
- obtaining and complying with relevant work permits.

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:

- capability and capacity of gas industry transmission pipeline construction plant and equipment across variable terrain and environment
- communication techniques between operators, stakeholders and ground crew, including oral and written communication techniques
- contractual requirements of contract staff, including relevant contractor licenses, tickets, insurances, qualifications, currency and permits
- gas industry products, processes and characteristics
- heritage and cultural issues
- operation of relevant gas industry plant, equipment and materials, including transmission pipeline communication equipment
- planning and organising techniques
- preparation of an excavation site
- problem-solving techniques, including decision making and conflict resolution techniques
- relevant gas industry documents
- relevant industry standards, guidelines, codes of practice and regulations
- relevant manufacturer specifications
- relevant stakeholders, including:
 - authorised persons, authorities, clients, land owners and tenants
 - workplace colleagues and managers
 - relevant customers and suppliers
 - regulatory bodies
 - third party asset owners
 - emergency response organisations
- relevant workplace documentation, including:
 - gas industry drawings, plans and material lists
 - quality and safety checks
 - relevant workplace documentation, forms and reports
- relevant workplace policies and procedures
- relevant WHS/OHS legislated requirements, including:
 - environmental, cultural and sustainable energy principles and practices
 - hazard warnings and safety signs
 - hazardous activities, including lifting, climbing, working in confined spaces and aloft, and use of power tools
 - hazardous materials
 - hazards, risk assessment and control measures
 - PPE
 - responding to emergency and accident situations

- safe manual handling techniques
- requirements for reinstating and rehabilitating a work site, including techniques, industry standards and workplace procedures
- site inspections
- traffic management plans.

Assessment Conditions

As a minimum, assessors must satisfy applicable regulatory requirements, which include requirements in the Standards for Registered Training Organisations current at the time of assessment.

As a minimum, assessment must satisfy applicable regulatory requirements, which include requirements in the Standards for Registered Training Organisations current at the time of assessment.

Assessment must occur in workplace operational situations where it is appropriate to do so; where this is not appropriate, assessment must occur in simulated workplace operational situations that replicate workplace conditions.

Assessment processes and techniques must be appropriate to the language, literacy and numeracy requirements of the work being performed and the needs of the candidate.

Resources for assessment must include access to:

- a range of relevant exercises, case studies and/or 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>

UEGNSG330 Coat metallic pipelines

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 test coating, and coat metallic pipelines in a utilities industry workplace, and complete work and relevant documentation in accordance with relevant legislations, codes of practice, regulations and workplace procedures.

It includes the use of testing and application equipment, applying the coating, undertaking coating defect assessment surveys and safe handling of chemicals/flammable liquids.

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

Pre-requisite Unit

Not applicable

Competency Field

Utilities

Unit Sector

Utilities Industry

Elements and Performance Criteria

ELEMENTS

Elements describe the essential outcomes.

1 Prepare to coat metallic pipelines

PERFORMANCE CRITERIA

Performance criteria describe the performance needed to demonstrate achievement of the element.

- 1.1** Work health and safety (WHS)/occupational health and safety (OHS) workplace procedures and environmental measures for the site are identified, obtained and applied
- 1.2** Job requirements and workplace procedures for the work are obtained and discussed with relevant person/s

to confirm the work schedule

- 1.3** WHS/OHS, environmental and sustainable energy policies and procedures are obtained and applied in accordance with workplace procedures
- 1.4** Hazards are identified and reported to relevant person/s to assess risks and control measures implemented in accordance with workplace procedures
- 1.5** Scope of work and level of responsibility under the relevant work permits and/or relevant notifications are obtained and confirmed with relevant person/s in accordance with job requirements and workplace procedures
- 1.6** Equipment, plant, tools and personal protective equipment (PPE) required to coat metallic pipelines are identified, obtained and checked for operation and safety in accordance with workplace procedures and manufacturer instructions
- 1.7** Relevant person/s are consulted to ensure the work is coordinated effectively with others involved
- 1.8** Materials, plans, diagrams, drawings and resources required for the job are obtained and interpreted in accordance with workplace procedures
- 1.9** 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
- 1.10** Third-party issues are referred to relevant person/s in accordance with workplace procedures
- 1.11** Site preparation, safety plan and work schedule are confirmed with relevant person/s in accordance with workplace procedures

2 Coat metallic pipelines

- 2.1** WHS/OHS and environmental risk control measures, schedule of work and workplace procedures for carrying out the work are followed
- 2.2** Materials, tools, plant, equipment and measuring devices are selected and used correctly and safely in accordance with manufacturer instructions and workplace procedures

- 2.3 Hazardous activities are conducted safely in accordance with WHS/OHS workplace procedures and job instructions
 - 2.3 Existing pipeline coatings are visually inspected to determine condition in accordance with workplace procedures
 - 2.4 Pipeline coating is tested using correct equipment to determine its condition in accordance with job requirements and workplace procedures
 - 2.5 Pipeline is prepared for coating in accordance with workplace procedures
 - 2.6 Pipeline is coated using correct equipment and materials in accordance with workplace procedures
 - 2.7 Work is carried out to the required standard, without waste of materials or damage to apparatus, circuits, and the surrounding environment or services using sustainable energy principles
 - 2.8 Hazard warnings and safety signs are recognised, hazards are assessed and WHS/OHS risks and incidents are reported to authorised person/s for directions in accordance with workplace procedures
 - 2.9 Unplanned events are referred to authorised person/s for directions in accordance with workplace procedures
 - 2.10 Quality checks of the work are undertaken in accordance with job instructions, industry standards and regulations
- 3 Complete work and relevant documentation**
- 3.1 WHS/OHS and environmental risk control measures for work completion are followed
 - 3.2 Relevant persons are notified of work completion in accordance with workplace procedures
 - 3.3 Work site is rehabilitated, cleaned up and made safe in accordance with workplace procedures
 - 3.4 Waste materials are disposed of safely in accordance with environmental policies and procedures
 - 3.5 Tools, equipment and any surplus resources and materials are cleaned, checked and securely stored in accordance with workplace procedures

- 3.6** Work completion documentation is completed and provided to relevant person/s in accordance with workplace procedures

Foundation Skills

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

Range of Conditions

Range is restricted to essential operating conditions and any other variables essential to the work environment.

Non-essential conditions may be found in the UEG Gas Industry Training Package Companion Volume Implementation Guide.

Unit Mapping Information

This unit replaces and is equivalent to UEGNSG330A Coat Metallic Pipelines.

Links

Companion Volume Implementation Guides are found in VETNet -
<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=6a6c032e-ffcb-4f3d-8063-415efbd261e8>

Assessment Requirements for UEGNSG330 Coat metallic pipelines

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 and performance criteria on at least two separate occasions and include:

- applying controls for stray, static and induced electrical faults
- applying relevant work health and safety (WHS)/occupational health and safety (OHS) requirements, including:
 - actioning and reporting accidents and incidents
 - environmental legislative requirements associated with the use, application and disposal of coating materials
 - hazard identification and reporting
 - implementing risk control measures
 - recognising and assessing hazard warnings and safety signs
 - safe handling procedures for a range of dangerous and toxic chemicals and compounds
 - selecting and using the correct personal protective equipment (PPE)
 - undertaking hazardous activities in a safe manner
- applying relevant industry standards, guidelines, codes of practice and regulations
- applying sustainable energy and environmental principles and practices
- assessing coating and application defects
- coating metallic pipelines
- communicating effectively with relevant person/s
- completing work and relevant documentation
- dealing with unplanned events/situations in accordance with workplace procedures in a manner that minimises risk to personnel and equipment
- following manufacturer instructions
- following workplace procedures
- minimising and disposing of waste correctly
- obtaining and interpreting relevant plans, drawings, maps, diagrams and schedules
- obtaining job requirements, work instructions, safety plan and work schedule
- performing quality checks
- performing visual inspection of pipeline coatings
- preparing to coat metallic pipelines

- referring third-party issues
- rehabilitating and maintaining a clean and safe work site
- selecting and using relevant materials and measuring devices
- selecting and operating correct tools, plant and equipment, including:
 - abrasive blast comparators
 - abrasive blasting equipment
 - densitometers
 - heating torch
 - low voltage/high voltage holiday detectors
 - paint thickness coating gauges and meters
 - pipe wrapping machines
 - spray painting equipment
- testing pipeline coatings.

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:

- cathodic protection, including:
 - faults and effects
 - stray electrical currents
 - damage to coatings
- controls for stray, static and induced electrical faults
- effective communication techniques
- environmental and sustainable energy principles and practices
- first aid, emergency and safety procedures for incidents
- pipeline coating application
- pipeline coating defect assessment methods
- pipeline coating irregularities, deviations or problems
- pipeline preparation/stripping
- pipeline coating types and applications, including:
 - petroleum based wraps
 - epoxy
 - paints
 - polyethylene (PE) jackets and sleeves
 - coal tar enamel
 - rock (protection) jacket
- problem-solving techniques
- quality checks
- relevant industry standards, legislation, guidelines, codes of practice and regulations

- relevant manufacturer instructions
- relevant materials, plans, diagrams, drawings and resources
- relevant safe work method statements (SWMS)/job safety assessments or risk mitigation processes
- relevant safety and environmental hazards and mitigation measures, including:
 - requirements of coating substance
 - safety issues of working in trenches, excavations and confined spaces
 - safety data sheets (SDS)
 - hazards and risk assessments
 - hazardous activities in the workplace
 - emergency control measures
 - hazard warnings and safety signs
- relevant tools, equipment, measuring devices and PPE
- relevant WHS/OHS legislated requirements
- relevant WHS/OHS policies and procedures
- relevant work permits/notifications
- relevant workplace documentation
- relevant workplace policies and procedures
- site preparation, safety plans, job requirements and work schedules
- techniques to minimise waste
- testing pipeline coatings
- third-party issues
- work site rehabilitation.

Assessment Conditions

As a minimum, assessors must satisfy applicable regulatory requirements, which include requirements in the Standards for Registered Training Organisations current at the time of assessment.

As a minimum, assessment must satisfy applicable regulatory requirements, which include requirements in the Standards for Registered Training Organisations current at the time of assessment.

Assessment must occur in workplace operational situations where it is appropriate to do so; where this is not appropriate, assessment must occur in simulated workplace operational situations that replicate workplace conditions.

Assessment processes and techniques must be appropriate to the language, literacy and numeracy requirements of the work being performed and the needs of the candidate.

Resources for assessment must include access to:

- a range of relevant exercises, case studies and/or 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>

UEGNSG331 Establish right of way access for transmission pipeline construction

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 prepare and establish right of way access for transmission pipeline construction, and complete work activities and workplace documentation in accordance with relevant legislation, industry standards, codes of practice and workplace procedures.

It includes obtaining relevant permits; verifying and identifying third-party assets; applying environmental and cultural heritage controls; and providing access for operators to survey, clear, ditch, lower in, backfill and reinstate the pipeline easement.

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

Pre-requisite Unit

Not applicable.

Competency Field

Transmission

Unit Sector

Gas Industry

Elements and Performance Criteria

ELEMENTS

Elements describe the essential outcomes.

1 Prepare to establish right of way access for transmission pipeline

PERFORMANCE CRITERIA

Performance criteria describe the performance needed to demonstrate achievement of the element.

1.1 Work health and safety (WHS)/occupational health and safety (OHS) workplace procedures and environmental measures for the site are identified, obtained and applied

construction

- 1.2 Topographical/geographical maps and workplace procedures for the site are obtained and job requirements discussed with relevant person/s to confirm the work schedule
 - 1.3 WHS/OHS, environmental and sustainable energy policies and procedures are obtained and applied in accordance with workplace procedures
 - 1.4 Recommendations to assist with construction of right of way for easements are made to others involved in the work in accordance with workplace procedures
 - 1.5 Hazards are identified, WHS/OHS risks are assessed and control measures prioritised, implemented and monitored in accordance with workplace procedures
 - 1.6 Scope of work and level of responsibility under the relevant work permit and/or relevant authorisation is obtained and confirmed with relevant person/s in accordance with job requirements and workplace procedures
 - 1.7 Tools, equipment and personal protective equipment (PPE) required for the work are identified, scheduled, obtained and checked for correct operation and safety in accordance with workplace procedures and manufacturer instructions
 - 1.8 Materials, plans, diagrams, drawings and resources required for the work are confirmed, scheduled and obtained in accordance with workplace procedures
 - 1.9 Responsibilities for first aid, emergencies and other work safety procedures for an incident at the work site are checked and confirmed with relevant person/s
 - 1.10 Third-party issues are referred to relevant person/s in accordance with workplace procedures
 - 1.11 Site preparation, safety plan and work schedule are confirmed with relevant person/s in accordance with workplace procedures
- 2 **Establish right of way access for transmission pipeline construction**
 - 2.1 WHS/OHS risk control measures, schedule of work and workplace procedures for carrying out the work are followed

- 2.2 Materials, tools, equipment and measuring devices required for the work are selected and used correctly and safely in accordance with manufacturer instructions and workplace procedures
 - 2.3 Hazardous activities, including lifting, climbing, use of power tools, and working in confined spaces, excavations, trenches, or aloft, are conducted safely in accordance with WHS/OHS workplace procedures and job instructions
 - 2.4 Work area is cordoned off and made safe for the construction of pipeline easements in accordance with workplace procedures
 - 2.5 Construction of pipeline easement is conducted in agreed timeframe and to required standards, without waste of materials or damage to apparatus, circuits, and the surrounding environment or services using sustainable energy principles
 - 2.6 WHS/OHS risks and incidents are reported to the authorised person/s for directions in accordance with workplace procedures
 - 2.7 Unplanned events are referred to relevant person/s for directions in accordance with workplace procedures
 - 2.8 Remedial action associated with the access for pipeline construction is dealt with in accordance with industry standards and workplace procedures
 - 2.9 Quality and safety checks of the work are undertaken in accordance with job instructions, industry standards and workplace procedures
- 3 **Complete work activities and relevant documentation**
 - 3.1 WHS/OHS risk control measures for work completion are followed
 - 3.2 Work site is rehabilitated, cleaned up and made safe in accordance workplace procedures
 - 3.3 Tools, equipment and any surplus resources and materials are cleaned, checked and securely stored in accordance with workplace procedures
 - 3.4 Relevant person/s are notified of work completion in accordance with workplace procedures

- 3.5** Work completion documentation is completed accurately and provided to relevant person/s in accordance with workplace procedures

Foundation Skills

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

Range of Conditions

Range is restricted to essential operating conditions and any other variables essential to the work environment.

Non-essential conditions may be found in the UEG Gas Industry Training Package Companion Volume Implementation Guide.

Unit Mapping Information

This unit replaces and is equivalent to UEGNSG331A Establish right of way access for transmission pipeline construction.

Links

Companion Volume Implementation Guides are found in VETNet -
<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=6a6c032e-ffcb-4f3d-8063-415efbd261e8>

Assessment Requirements for UEGNSG331 Establish right of way access for transmission pipeline construction

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 and performance criteria on at least two separate occasions and include:

- following work health and safety (WHS)/occupational health and safety (OHS), environmental and cultural legislative and regulatory requirements
- abiding by restrictions of the right of way and access
- selecting and operating correct equipment for ground conditions
- dealing with unplanned events
- preparing to establish right of way access for transmission pipeline construction
- establishing right of way access for transmission pipeline construction
- completing work activities and relevant documentation
- applying relevant work health and safety (WHS)/occupational health and safety (OHS) requirements
- applying relevant industry standards, guidelines, legislation, codes of practice and regulations
- applying sustainable energy and environmental principles and practices
- obtaining job requirements, work instructions, safety plans and work schedules
- obtaining and interpreting topographical and geographical maps
- following workplace policies and procedures
- identifying and checking tools, equipment, plant and personal protective equipment (PPE) for correct operation and safety
- obtaining and interpreting relevant plans, drawings, diagrams and schedules
- referring third-party issues
- following manufacturer instructions
- undertaking hazardous activities in a safe manner
- cordoning off work site for construction of easements
- rehabilitating and maintaining a clean and safe work site
- taking appropriate remedial action for pipeline access
- performing quality and safety checks
- cleaning and storing tools, equipment and measuring devices.

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:

- relevant industry standards, guidelines, legislation, codes of practice and regulations
- relevant workplace policies and procedures
- right of way access for transmission pipeline construction
- relevant safety hazards and mitigation measures, including:
 - vehicles in rough terrain
 - natural emergencies – e.g. bushfires
 - fauna control – e.g. snakes and ticks
 - environmental and cultural hazards
 - PPE and safety data sheets (SDS)
 - working in confined spaces, excavations, trenches or aloft
- relevant manufacturer instructions
- relevant safe work method statements (SWMS)/job safety assessments or risk mitigation processes
- relevant WHS/OHS legislated requirements
- relevant workplace documentation
- sustainable energy and environment principles and practices
- right of way access for easements
- techniques to read and interpret maps
- relevant work permits/authorisations
- relevant tools, equipment and PPE
- relevant materials, plans, diagrams, drawings and resources
- effective communication techniques
- problem-solving techniques
- first aid, emergency and safety procedures for incidents
- third-party issues
- site preparation, safety plans job requirements and work schedules
- hazards and hazardous activities in the workplace
- quality and safety checks
- techniques to minimise waste
- remedial actions with access for pipeline easements
- work site rehabilitation 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 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>

UEGNSG342 Maintain pipeline easements

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 maintain pipeline easements and surrounding environments ensuring the easement is secure and effective.

It includes inspecting and maintaining the physical condition of the easement and associated infrastructure (signage, fencing and gates) through vegetation, erosion and encroachment management, and completing work and relevant documentation.

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

Pre-requisite Unit

Not applicable.

Competency Field

Transmission

Unit Sector

Utilities Industry

Elements and Performance Criteria

ELEMENTS

Elements describe the essential outcomes.

1 Prepare to inspect and maintain pipeline easement

PERFORMANCE CRITERIA

Performance criteria describe the performance needed to demonstrate achievement of the element.

1.1	Work instructions are obtained and confirmed with relevant person/s in accordance with workplace procedures
1.2	Work health and safety (WHS)/occupational health and safety (OHS) workplace procedures and environmental

measures for the site are identified and applied

- 1.3** Topographical/geographical maps and workplace procedures for the site are obtained and job requirements discussed with relevant person/s to confirm the work schedule
- 1.4** WHS/OHS, environmental and sustainable energy policies and procedures are obtained and applied in accordance with workplace procedures
- 1.5** Easements and surrounding environments are inspected and assessed using appropriate mediums and civil activities to determine maintenance requirements in accordance with workplace procedures and job requirements
- 1.6** Recommendations to assist with maintaining pipeline easements are made to others involved in the work in accordance with workplace procedures
- 1.7** Hazards are identified, WHS/OHS risks are assessed and control measures prioritised, implemented and monitored in accordance with workplace procedures
- 1.8** Scope of responsibility under the relevant work permit/authorisation is obtained and confirmed with relevant person/s in accordance with job requirements and workplace procedures
- 1.9** Tools, equipment and personal protective equipment (PPE) required for the work are identified, obtained and checked for correct operation and safety in accordance with workplace procedures and manufacturer instructions
- 1.10** Materials, plans, diagrams, drawings and resources required for the work are confirmed, scheduled and obtained in accordance with workplace procedures
- 1.11** Responsibilities for related work safety and emergency procedures for an incident at the work site are confirmed with relevant person/s
- 1.12** Client issues are referred to relevant person/s in accordance with industry and community standards
- 1.13** Site preparation, safety plan and work schedule are confirmed with relevant person/s in accordance with

		workplace procedures
2 Maintain pipeline easement and surrounding environment	2.1	WHS/OHS risk control measures, schedule of work and workplace procedures for carrying out the work are followed
	2.2	Materials, tools, equipment and measuring devices required for the maintenance work are selected and used correctly and safely in accordance with manufacturer instructions and workplace procedures
	2.2	Hazardous activities are conducted safely in accordance with WHS/OHS workplace procedures and job instructions
	2.3	Work area is isolated, made safe and civil activities and maintenance of pipeline easements carried out in accordance with job instructions, industry standards and workplace procedures
	2.4	Easement maintenance is conducted in agreed timeframe and to required standards, with a minimum of waste of materials or damage to apparatus, and the surrounding environment or services using sustainable energy principles
	2.5	WHS/OHS risks and incidents are reported to authorised person/s for directions in accordance with workplace procedures
	2.6	Unplanned events are referred to authorised person/s for directions in accordance with workplace procedures
	2.7	Remedial action required when maintaining pipeline easements is dealt with in accordance with workplace procedures
	2.8	Quality and safety checks of the work are undertaken in accordance with job instructions and workplace procedures
3 Complete work and relevant documentation	3.1	WHS risk control measures for work completion are followed
	3.2	Pipeline easement is monitored to ensure pipeline integrity and work undertaken is checked against work schedule and anomalies reported to relevant person/s in accordance with workplace procedures

- 3.3 Work site is rehabilitated, cleaned up and made safe in accordance with workplace procedures
- 3.4 Tools, equipment and any surplus resources and materials are cleaned, checked and securely stored in accordance with workplace procedures
- 3.5 Relevant persons are notified of work completion in accordance with workplace procedures
- 3.6 Work completion documentation is completed accurately and provided to relevant person/s in accordance with workplace procedures

Foundation Skills

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

Range of Conditions

Range is restricted to essential operating conditions and any other variables essential to the work environment.

Non-essential conditions may be found in the UEG Gas Industry Training Package Companion Volume Implementation Guide.

Unit Mapping Information

This unit replaces and is equivalent to UEGNSG342A Maintain pipeline easements.

Links

Companion Volume Implementation Guides are found in VETNet -
<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=6a6c032e-ffcb-4f3d-8063-415efbd261e8>

Assessment Requirements for UEGNSG342 Maintain pipeline easements

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 and performance criteria on at least two separate occasions and include:

- applying relevant industry standards, guidelines, codes of practice and regulations
- applying relevant WHS/OHS requirements
- applying sustainable energy and environmental principles and practices
- cleaning and storing tools, equipment and measuring devices
- completing work and relevant documentation
- dealing with unplanned events
- following maintenance procedures
- following manufacturer's instructions
- following workplace policies and procedures
- gathering evidence of required maintenance
- inspecting and assessing easement
- inspecting pipeline easements
- maintaining a clean and safe work site
- maintaining pipeline easements and surrounding environments
- maintaining signage, access points and fencing
- minimising waste
- obtaining and following relevant workplace documentation, including:
 - work health and safety (WHS)/occupational health and safety (OHS) and environmental legislative requirements
 - erosion control documentation
 - vegetation control documentation
 - pipeline alignment drawings
 - topographical maps
 - geographical maps
 - pipeline access route manuals
 - safety data sheets (SDS)
- obtaining job requirements, work instructions, safety plans and work schedules

- performing quality and safety checks
- referring third-party issues
- undertaking hazardous activities in a safe manner.

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:

- civil works activities which may affect pipeline easements
- client issues
- easement access, including:
 - topographical and geographical maps
 - pipeline routes and methods for accessing pipelines
 - materials, plans, diagrams, resources and drawings
- easement maintenance requirements
- effective communication techniques
- erosion control
- maintenance of signage, access points and fencing
- pipeline easement maintenance
- problem-solving techniques
- quality and safety checks
- relevant industry, technical and community standards
- relevant legislation, regulations and codes
- relevant manufacturer instructions
- relevant safety hazards and mitigation measures, including:
 - vehicles in rough terrain
 - natural emergencies including bushfires
 - fauna control including snakes and ticks
 - environmental and cultural hazards
 - personal protective equipment (PPE) and SDS
 - working in confined spaces, excavations, trenches or aloft
- relevant tools, equipment and PPE
- relevant WHS/OHS legislated requirements
- relevant work permits/authorisations
- relevant workplace policies and procedures
- remedial actions for maintaining pipeline easements
- reporting and documentation
- site preparation, safety plans job requirements and work schedules
- sustainable energy principles and practices
- techniques to gather evidence of required maintenance
- techniques to inspect pipeline easements

- techniques to minimise waste
- techniques to read and interpret maps
- vegetation control and weed mitigation
- work site rehabilitation.

Assessment Conditions

As a minimum, assessors must satisfy applicable regulatory requirements, which include requirements in the Standards for Registered Training Organisations current at the time of assessment.

As a minimum, assessment must satisfy applicable regulatory requirements, which include requirements in the Standards for Registered Training Organisations current at the time of assessment.

Assessment must occur in workplace operational situations where it is appropriate to do so; where this is not appropriate, assessment must occur in simulated workplace operational situations that replicate workplace conditions.

Assessment processes and techniques must be appropriate to the language, literacy and numeracy requirements of the work being performed and the needs of the candidate.

Resources for assessment must include access to:

- a range of relevant exercises, case studies and/or 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>

UEGNSG346 Launch and recover PIGs in gas transmission pipelines

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 prepare, launch and recover pipeline inspection gauges (PIGs) in gas transmission pipelines, to inspect and ensure the pipeline is clean and dry with no obstructions.

It includes liaising with stakeholders, analysing and interpreting the pigging data, and testing and inspecting pigging equipment in accordance with manufacturer instructions 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

Gas Transmission

Unit Sector

Gas Industry

Elements and Performance Criteria

ELEMENTS

Elements describe the essential outcomes.

1 Prepare and plan for pigging gas transmission pipelines

PERFORMANCE CRITERIA

Performance criteria describe the performance needed to demonstrate achievement of the element.

1.1 Work health and safety (WHS)/occupational health and safety (OHS) workplace procedures and environmental measures for the site are identified, obtained and applied

- 1.2** Work schedule, drawings, plans, job requirements and workplace procedures for the work are obtained and communicated to relevant person/s in accordance with workplace procedures
- 1.3** WHS/OHS, environmental and sustainable energy policies and procedures are obtained, applied and communicated to relevant person/s
- 1.4** Work is prioritised and sequenced for completion within acceptable timeframes following consultation with others in accordance with workplace procedures
- 1.5** Hazards are identified, WHS/OHS risks are assessed and control measures prioritised, implemented and monitored in accordance with workplace procedures
- 1.6** Responsibilities under the relevant work permit/notification are obtained and confirmed with relevant person/s to access, isolate/de-energise systems and perform the work in accordance with regulatory requirements and workplace procedures
- 1.7** Person/s, equipment, tools and personal protective equipment (PPE) required for the job are identified, scheduled, obtained and checked for correct operation and safety in accordance with workplace procedures
- 1.8** Responsibilities for first aid and other emergency incidents at the work site are checked and confirmed with relevant person/s in accordance with workplace procedures
- 1.9** Communication issues with relevant stakeholders are resolved and work coordinated in accordance with work schedule and workplace procedures
- 1.10** Site preparation, safety plan and work schedule are confirmed in accordance with workplace procedures
- 1.11** Site, PIG, PIG trap, station and pipeline are prepared to minimise risk and damage to property, commerce and individuals in accordance with workplace procedures
- 1.12** Person/s participating in the work, including plant operators and contractors, are briefed and responsibilities confirmed in accordance with workplace procedures

	1.13	Signage, barriers and warning devices are positioned in accordance with job requirements, workplace procedures and traffic management plan
2 Launch and recover gas transmission pipeline PIGs	2.1	WHS/OHS risk control measures, schedule of work and workplace procedures for carrying out the work are followed
	2.2	Materials, tools, equipment and measuring devices required for the work are selected and used correctly and safely in accordance with manufacturer instructions
	2.3	Hazardous activities are performed safely in accordance with workplace procedures, codes and regulatory requirements
	2.4	Gas transmission pipeline PIG is launched, tracked and recovered in accordance with work schedule and workplace procedures
	2.5	Work is carried out to industry standards without waste of materials or damage to apparatus, circuits, and the surrounding environment or services using sustainable energy principles
	2.6	Hazards and WHS/OHS risks are assessed and incidents reported to the authorised person/s for directions in accordance with workplace procedures
	2.7	Data/results from transmission pipeline pigging operations is gathered/retrieved and analysed to determine internal pipeline conditions in accordance with workplace procedures
	2.8	Testing and inspecting of the pipeline and pigging equipment is conducted in accordance with job requirements and workplace procedures
	2.9	Unplanned events and non-routine problems are referred to authorised person/s for direction in accordance with workplace procedures
	2.10	Fault-finding and troubleshooting techniques are applied to problems encountered with the PIG launch and recovery in accordance with requirements and workplace procedures
	2.11	Quality and safety checks of the work are undertaken in accordance with industry standards and workplace

procedures

3 Re-establish transmission pipeline to operational condition, complete work and relevant documentation

- 3.1** WHS/OHS risk control measures and workplace procedures for completing the work are followed
- 3.2** Retrieved PIG is inspected to determine the wear sustained to the PIG material and anomalies reported in accordance with workplace procedures
- 3.3** Accidents and injuries are reported in accordance with requirements and workplace procedures
- 3.4** Waste materials are safely disposed of and work site is rehabilitated, cleaned up and made safe in accordance with workplace procedures
- 3.5** Tools, equipment and any surplus resources and materials are cleaned, checked and securely stored in accordance with workplace procedures
- 3.6** Appropriate person/s are notified of work completion in accordance with workplace procedures
- 3.7** Relevant work permit/s are signed off and pipeline returned to service in accordance with regulatory requirements and workplace procedures
- 3.8** Data is recorded and work completion records, reports, as modified drawings and documentation are completed, processed and appropriate person/s notified in accordance with workplace procedures

Foundation Skills

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

Range of Conditions

Range is restricted to essential operating conditions and any other variables essential to the work environment.

Non-essential conditions may be found in the UEG Gas Industry Training Package Companion Volume Implementation Guide.

pigging gas transmission pipelines must be demonstrated on at least three (3) of the following procedures:

- cleaning PIGs
- gauging PIGs
- drying PIGs
- intelligent PIGs
- PIG travel time calculations

Unit Mapping Information

This unit replaces and is equivalent to UEGNSG346A Launch and recover PIGs in gas transmission pipelines.

Links

Companion Volume Implementation Guides are found in VETNet -
<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=6a6c032e-ffcb-4f3d-8063-415efbd261e8>

Assessment Requirements for UEGNSG346 Launch and recover PIGs in gas transmission pipelines

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:

- analysing data/results from pigging to determine pipeline condition
- applying decision-making and conflict resolution techniques
- applying fault-finding and troubleshooting techniques
- applying relevant industry standards, guidelines, codes of practice, legislation and regulations
- applying relevant work health and safety (WHS)/occupational health and safety (OHS) requirements, including:
 - ensuring emergency response procedures are in place
 - conducting job safety analysis (JSA)
 - working safely with hazardous materials and equipment
 - hazard identification and reporting
 - implementing risk control measures
 - selecting and using correct personal protective equipment (PPE)
- applying sustainable energy and environmental principles and practices
- communicating with relevant stakeholders
- completing work and relevant documentation, reports, records and drawings
- conducting quality and safety checks
- coordinating and briefing work party
- dealing with unplanned events/situations in accordance with workplace procedures in a manner that minimises risk to personnel and equipment
- following traffic management plans
- following workplace procedures
- interpreting technical drawings and plans
- inspecting pipeline inspection gauges (PIGs) to determine wear
- isolating and de-energising systems
- launching, tracking, receiving and recovering gas transmission PIG
- obtaining, monitoring and complying with relevant work permits
- obtaining and using relevant tools, equipment and measuring devices, including:

- gas detector
- service locator
- preparing and planning for pigging gas transmission pipelines
- preparing station and PIG trap for launch
- recording data
- re-establishing transmission pipeline to operational condition
- testing and inspecting pipeline and pigging equipment.

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:

- fault-finding and troubleshooting techniques
- hazardous activities, including lifting, climbing, working in confined spaces, excavations, trenches or aloft, and use of power tools
- pigging a pipeline, including:
 - required set up
 - insertion/launching
 - monitoring and communication
 - capture/recovery
 - analysis and interpretation of data captured through the pigging process
 - traps
 - anomalies, such as ‘stuck pig’
 - dangers
 - waste disposal
- pipeline preparation, including:
 - relevant authorities and persons to be notified and approval requirements
 - types of pipeline materials
 - new and existing pipelines and stations
 - safety requirements and procedures
 - manufacturer operating instructions and workplace procedures
 - trap launchers and receivers installed
 - water and waste disposal requirements
 - pipeline pigging sequence
- quality and safety checks
- relevant documentation, reporting and communication for pigging
- relevant industry plant, equipment, tools and materials
- relevant industry standards, guidelines, codes of practice and regulations
- relevant work permits
- relevant WHS/OHS legislated requirements, including:

- hazard identification and reporting
- implementing risk control measures
- risk assessment
- hazardous and flammable materials
- environmental and sustainable energy principles and practices
- traffic management plans
- types of PIGs and applications.

Assessment Conditions

As a minimum, assessors must satisfy applicable regulatory requirements, which include requirements in the Standards for Registered Training Organisations current at the time of assessment.

As a minimum, assessment must satisfy applicable regulatory requirements, which include requirements in the Standards for Registered Training Organisations current at the time of assessment.

Assessment must occur in workplace operational situations where it is appropriate to do so; where this is not appropriate, assessment must occur in simulated workplace operational situations that replicate workplace conditions.

Assessment processes and techniques must be appropriate to the language, literacy and numeracy requirements of the work being performed and the needs of the candidate.

Resources for assessment must include access to:

- a range of relevant exercises, case studies and/or 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>

UEGNSG347 Perform routine maintenance on transmission pipeline facilities and equipment

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 perform routine maintenance on transmission pipeline facilities and equipment, and complete work and relevant documentation.

It includes using equipment, tools and testing devices, performing routine maintenance and identifying faults.

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

Pre-requisite Unit

Not applicable.

Competency Field

Gas Transmission

Unit Sector

Gas Industry

Elements and Performance Criteria

ELEMENTS

Elements describe the essential outcomes.

1 Prepare for routine maintenance on transmission pipeline facilities and equipment

PERFORMANCE CRITERIA

Performance criteria describe the performance needed to demonstrate achievement of the element.

1.1 Work schedule, drawings, plans, job requirements and material lists are obtained and analysed in accordance with workplace procedures

1.2 Relevant technical, work health and safety

(WHS)/occupational health and safety (OHS), environmental and workplace procedures for the work are obtained for all work sites and communicated to relevant person/s

- 1.3 Work is prioritised and sequenced for completion within acceptable timeframes following consultation with relevant stakeholders in accordance with workplace procedures
- 1.4 Hazards are identified, WHS/OHS risks are assessed and control measures prioritised, implemented and monitored in accordance with workplace procedures
- 1.5 Facilities/equipment are safely isolated, depressurised, tagged and locked out and relevant permit/s to access and perform work are obtained in accordance with workplace procedures
- 1.6 Resources, including appropriately licensed persons, equipment, tools and personal protective equipment (PPE), required for the job are identified, obtained and checked for correct operation and safety
- 1.7 Communication issues with relevant stakeholders are resolved and work coordinated in accordance with work schedule and workplace procedures
- 1.8 Site is prepared to minimise risk and damage to property, commerce and individuals in accordance with work schedule and workplace procedures
- 1.9 Members of the work party are briefed about permit conditions and responsibilities coordinated and confirmed in accordance with work schedule and workplace procedures
- 1.11 Signs, barriers and warning devices are positioned in accordance with job requirements and workplace procedures

2 Perform routine maintenance on transmission pipeline facilities and equipment

- 2.1 WHS/OHS risk control measures and environmental policies and procedures are followed in accordance with workplace procedures
- 2.2 Relevant materials, tools, equipment and measuring devices required for the maintenance are selected and used correctly and safely in accordance with

manufacturer instructions and workplace procedures

2.3 Hazardous activities are performed safely in accordance with relevant workplace procedures, codes and legislation

2.4 Routine maintenance of transmission pipeline facilities and equipment is performed in agreed timeframe and to quality standard with a minimum of waste in accordance with work schedule and workplace procedures

2.5 Hazard warnings and safety signs are recognised and hazards and WHS/OHS risks are reported to authorised person/s for directions in accordance with workplace procedures

2.6 Unplanned events and non-routine problems are identified and safely resolved in accordance with workplace procedures

2.7 Fault-finding and troubleshooting techniques are applied to identify any routine maintenance required in accordance with job requirements and workplace procedures

2.8 Quality checks are undertaken in accordance with workplace procedures

3 Complete work and relevant documentation

3.1 Work undertaken is checked against work schedule for conformance and anomalies reported to relevant person/s in accordance with workplace procedures

3.2 Accidents and injuries are reported as required in accordance with workplace procedures

3.3 Work site is rehabilitated, cleaned up and made safe in accordance with 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 work permit/s are signed off and facilities/equipment is returned to service in accordance with job requirements and workplace procedures

3.6 Work completion records, documentation, reports as installed/ modified drawings, are completed, processed and appropriate person/s notified in accordance with

workplace procedures

Foundation Skills

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

Range of Conditions

Range is restricted to essential operating conditions and any other variables essential to the work environment.

Non-essential conditions may be found in the UEG Gas Industry Training Package Companion Volume Implementation Guide.

Unit Mapping Information

This unit replaces and is equivalent to UEGNSG347A Perform routine maintenance on transmission pipeline facilities and equipment.

Links

Companion Volume Implementation Guides are found in VETNet -
<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=6a6c032e-ffcb-4f3d-8063-415efbd261e8>

Assessment Requirements for UEGNSG347 Perform routine maintenance on transmission pipeline facilities and equipment

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 and performance criteria on at least two separate occasions and include:

- applying problem-solving techniques
- applying relevant work health and safety (WHS)/occupational health and safety (OHS) requirements, including:
 - working safely with hazardous materials and equipment
 - hazard identification and reporting
 - implementing risk control measures
 - selecting and using correct personal protective equipment (PPE)
- applying relevant industry standards, guidelines, codes of practice and regulations
- applying sustainable energy and environmental principles and practices
- communicating effectively with stakeholders
- completing work and relevant documentation
- conducting quality checks
- dealing with unplanned events/situations in accordance with workplace procedures in a manner that minimises risk to personnel and equipment
- following work schedule, safety plan and job requirements
- following workplace procedures
- interpreting technical drawings, plans and materials lists
- isolating, depressurising, tagging and locking out facilities/equipment
- obtaining relevant resources, tools, equipment and materials to conduct the work
- obtaining relevant work permits
- operating gas detector
- performing routine maintenance on transmission pipeline facilities and equipment
- positioning signs, barriers and warning devices
- preparing and planning for routine maintenance on transmission pipeline facilities and equipment
- rehabilitating and maintaining a clean work site
- reporting anomalies
- restoring all site isolations

- updating drawings/plans.

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:

- appropriately licensed persons
- communication and recording/reporting documentation requirements and procedures
- de-isolation all sources of energy, removal of tags and locks and return to normal operation requirements and procedures
- faults managed during routine maintenance
- hazardous activities, including lifting, climbing, working in confined spaces and aloft, and use of power tools
- isolation, depressurisation, tagging and lock out of pipeline facilities and equipment requirements and procedures, including valves, flanges, fittings, markers and signs
- maintenance activities requirements and procedures
- quality checks
- relevant industry standards, guidelines, codes of practice and regulations
- relevant tools, equipment and instruments
- manufacturer specifications, manuals, part lists, calibration forms and checklists
- relevant industry standards, guidelines, codes of practice and regulations
- relevant WHS/OHS legislated requirements, including:
 - hazards, risk assessment and control measures
 - environmental and sustainable energy principles and practices
 - hazard warnings and safety signs
 - hazardous materials
 - PPE
- relevant work permits
- relevant workplace documentation
- relevant workplace policies and procedures
- site preparation, safety plans, job requirements and work schedules
- traffic management plans
- types of pipeline, facilities and equipment to be inspected and tested.

Assessment Conditions

As a minimum, assessors must satisfy applicable regulatory requirements, which include requirements in the Standards for Registered Training Organisations current at the time of assessment.

As a minimum, assessment must satisfy applicable regulatory requirements, which include requirements in the Standards for Registered Training Organisations current at the time of assessment.

Assessment must occur in workplace operational situations where it is appropriate to do so; where this is not appropriate, assessment must occur in simulated workplace operational situations that replicate workplace conditions.

Assessment processes and techniques must be appropriate to the language, literacy and numeracy requirements of the work being performed and the needs of the candidate.

Resources for assessment must include access to:

- a range of relevant exercises, case studies and/or 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>

UEGNSG348 Supervise the operation of plant and equipment for the construction of gas transmission pipelines

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 supervise the operation of plant and equipment for the construction of gas transmission pipelines.

It includes undertaking functions for transmission pipeline construction, including interpreting instructions; knowing the capabilities and limits of plant, equipment and tools; and effective communication and supervision of personnel. It also includes supervising operations to ensure work health and safety (WHS)/occupational health and safety (OHS), environmental and cultural heritage issues are effectively addressed in the transmission pipeline construction process.

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

Pre-requisite Unit

Not applicable.

Competency Field

Gas Transmission

Unit Sector

Gas Industry

Elements and Performance Criteria

ELEMENTS

Elements describe the essential outcomes.

1 Prepare work schedule for the use of plant and equipment

PERFORMANCE CRITERIA

Performance criteria describe the performance needed to demonstrate achievement of the element.

1.1 Job instructions are obtained and confirmed with relevant person/s

- 1.2 WHS/ OHS, environmental, cultural heritage and sustainable energy policies and procedures for the work are obtained and confirmed with relevant person/s
 - 1.3 Work schedule is checked to ensure resources, equipment and personnel skills required meet compliance requirements in accordance with workplace procedures
 - 1.4 Work and maintenance schedule is discussed with relevant person/s to determine work and confirm responsibilities and capabilities
 - 1.5 Previous work activities are obtained from personnel and appropriate action taken with regard to current work schedule and use of plant and equipment
 - 1.6 Hazards and WHS/OHS risks are identified and prioritised and control measures, implemented and monitored in accordance with workplace procedures
 - 1.7 Relevant work permit/s are obtained and currency confirmed in accordance with job requirements and workplace procedures
 - 1.8 Responsibilities for first aid and incidents at the work site are checked and confirmed with relevant person/s in accordance with workplace procedures
- 2 **Supervise operations in accordance with the work schedule**
 - 2.1 WHS/OHS risk control measures and policies and procedures are followed in accordance with workplace procedures
 - 2.2 Work schedule is monitored and instructions given/remedial action taken to address any problems encountered with the operation of plant and equipment

Instructions are provided for any remedial action associated with the operation of plant and equipment in accordance with workplace procedures
 - 2.3 Instructions are provided to operators to ensure the work area is made safe in accordance with workplace procedures
 - 2.4 Hazards and risks related to safety and plant operation are identified and action taken in accordance with workplace procedures

	2.5 Unplanned events and non-routine problems are referred to authorised person/s for directions in accordance with workplace procedures 2.6 Work schedule is monitored and remedial action taken to address any problems encountered in accordance with requirements and workplace procedures 2.7 Plant and equipment usage/operation is supervised and quality and safety checks are undertaken in accordance industry standards and workplace procedures
3 Complete work and relevant documentation	3.1 Work undertaken and plant and equipment usage is checked against work schedule for conformance with job requirements and anomalies reported to authorised person/s in accordance with workplace procedures 3.2 Accidents and incidents are actioned and reported to authorised person/s in accordance with workplace procedures 3.3 Supervision of shutdown procedures is performed in accordance with workplace procedures to ensure environmental compliance and condition of plant and equipment is maintained 3.4 Tools, plant, equipment and any surplus resources and materials are cleaned, checked and securely stored in accordance with workplace procedures 3.5 Appropriate person/s are notified of work completion in accordance with workplace procedures 3.6 Work completion records, report forms, documentation and data sheets are completed 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

Volume Implementation Guide.

large plant and equipment must include at least two (2) of the following:	• excavator with vacuum lift • bending machine with mandrel • rock saw • bucket wheel
backfill plant and equipment include the following:	• padding machine • excavator • grader • dozer • front end loader
clear and grade plant and equipment includes the following:	• dozer • excavator • grader • backhoe • front end loader
ditching plant and equipment includes the following:	• excavator • rock saw • bucket wheel trencher
hydrostatic testing plant and equipment includes the following:	• crane truck • side boom • rough terrain crane
joint coating plant and equipment includes the following:	• grit blasting rig over ditch wrapping machine • thermal coil
lower and lay plant and equipment includes the following:	• side boom with roller cradles • excavator
minor mechanical maintenance includes the following:	• excavator and vacuum lift • bending machine and mandrels • internal line up clamp • tack rig • side boom • roller cradles • rock saw • bucket wheel trencher • thermal coil • over ditch wrapping machine • padding machines • mitsu bucket
string and bend plant and equipment includes the following:	• excavator • bending machine with mandrels

welding includes the following:

- side boom
- side boom
- internal line up clamp
- tack rig

Unit Mapping Information

This unit replaces and is equivalent to UEGNSG348A Supervise the operation of plant and equipment for the construction of gas transmission pipelines.

Links

Companion Volume Implementation Guides are found in VETNet -
<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=6a6c032e-ffcb-4f3d-8063-415efbd261e8>

Assessment Requirements for UEGNSG348 Supervise the operation of plant and equipment for the construction of gas transmission pipelines

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 organisational management systems and procedures for work health and safety (WHS)/occupational health and safety (OHS), including:
 - identifying hazards
 - managing risk through the incorporation of effective control measures
- applying relevant industry standards, guidelines, codes of practice, legislation and regulations
- applying relevant WHS/OHS requirements, including:
 - correctly selecting and using personal protective equipment (PPE)
 - effectively using safety data sheets (SDS)
 - hazard identification and reporting
 - implementing risk control measures
 - preparing job hazard analysis
 - safe manual handling techniques
- communicating instructions to transmission pipeline construction workforce, contractors and stakeholders, including communication with ground crew during operations
- completing work and relevant documentation, data sheets, reports and records
- complying with permits pertaining to transmission pipeline construction operations
- complying with relevant cultural heritage requirements
- conducting quality and safety checks
- coordinating an effective response to a transmission pipeline construction emergency
- dealing with an environmental incident, including:
 - controlling and minimising the impact of an environmental incident
 - controlling environment incident
 - incident investigation
 - applying incident reporting and notification procedures
 - reviewing environmental incident
 - making recommendations to prevent reoccurrence

- implementing recommendations
- dealing with unplanned events
- following workplace procedures
- operating and maintenance schedule requirements for large plant and equipment, including:
 - dozer
 - excavator
 - grader
 - backhoe
 - front end loader
 - side boom
 - internal line up clamp
 - tack rig: dozer or skid steer
 - grit blasting rig
 - side booms with roller cradles
 - crane truck: heavy rigid truck
 - rough terrain crane
- preparing work schedule for the use of plant and equipment
- protecting the environment whilst constructing a transmission pipeline, including:
 - installation of siltation control methods, such as straw and synthetic bails
 - curb side filter rolls
 - erosion prevention
 - weed spread mitigation
 - application of SDS information
 - noise control techniques
 - odourant handling and testing processes
 - excavation restoration, compaction and seeding
 - applying green tagging for flora and fauna habitat
 - application of cultural heritage awareness and protection requirements for a pipeline construction site
- supervising operations in accordance with the work schedule
- supervising shutdown procedure
- using small plant and equipment, including the following:
 - extra low voltage lighting equipment
 - gas detectors
 - general concrete mixer
 - general trolley
 - hand held tools
 - hand wrapping machines
 - holiday detection equipment
 - non-pressurised pumps and hoses

- power tools
- pressurised pumps and hoses
- traffic barriers
- wheelbarrows.

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:

- construction activity procedures
- construction materials: properties, characteristics and applications
- contingency planning and management
- cultural and heritage awareness requirements and procedures
- environmental requirements and procedures
- interpreting, applying and communicating information, including:
 - manufacturer manuals
 - requirements and procedures
 - technical information and drawings
 - site plans
 - basic geological and technical data
- on-site communication techniques, including:
 - hand signals
 - satellite phones
 - radios
- project and time management skills
- quality assurance procedures
- relevant legislation, regulations, codes, standards and policies
- relevant manufacturer specifications
- relevant safe work method statements (SWMS)/job safety assessments or risk mitigation processes
- relevant stakeholders
- relevant WHS/OHS legislated requirements, including:
 - hazards, risk assessment and control measures
 - PPE and spill kits
 - hazardous materials
 - manual handling
 - confined spaces
 - gas detection
 - SDS
 - emergency and incident response

- relevant workplace documentation, forms and reports
- relevant workplace policies and procedures
- supervisory and leadership techniques
- transmission pipeline construction functions, including:
 - backfill
 - clear and grade
 - ditching
 - hydro testing
 - joint coating
 - lower and lay
 - mechanical (minor maintenance)
 - string and bend
 - welding
- transmission pipeline construction techniques, equipment and tools.

Assessment Conditions

As a minimum, assessors must satisfy applicable regulatory requirements, which include requirements in the Standards for Registered Training Organisations current at the time of assessment.

As a minimum, assessment must satisfy applicable regulatory requirements, which include requirements in the Standards for Registered Training Organisations current at the time of assessment.

Assessment must occur in workplace operational situations where it is appropriate to do so; where this is not appropriate, assessment must occur in simulated workplace operational situations that replicate workplace conditions.

Assessment processes and techniques must be appropriate to the language, literacy and numeracy requirements of the work being performed and the needs of the candidate.

Resources for assessment must include access to:

- a range of relevant exercises, case studies and/or 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>

UEGNSG349 Carry out surveillance of gas transmission pipelines

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 carry out ground surveillance of gas transmission pipelines, complete work and relevant documentation, and report in accordance with relevant legislation, standards, codes of practice and workplace procedures.

It includes threat mitigation through identifying non-conformances, areas to be monitored and inspection of easement, pipe work, structures, fittings and equipment in accordance with organisational and statutory requirements.

Aerial surveillance is not covered by this unit.

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

Pre-requisite Unit

Not applicable.

Competency Field

Gas Transmission

Unit Sector

Gas Industry

Elements and Performance Criteria

ELEMENTS

Elements describe the essential outcomes.

1 Prepare to carry out surveillance of gas

PERFORMANCE CRITERIA

Performance criteria describe the performance needed to demonstrate achievement of the element.

1.1 Work health and safety (WHS)/occupational health and safety (OHS) workplace procedures and environmental,

transmission pipelines		cultural and heritage measures for the site are identified, obtained and applied
	1.2	Job requirements and workplace procedures for the surveillance work are discussed with relevant person/s to confirm the work schedule
	1.3	WHS/OHS, environmental and sustainable energy policies and procedures are obtained and communicated to relevant person/s
	1.4	Work is prioritised and sequenced for completion within acceptable timeframes following consultation with relevant person/s in accordance with workplace procedures
	1.5	Hazards are identified, WHS/OHS and environmental risks are assessed and control measures prioritised, implemented and monitored in accordance with workplace procedures
	1.6	Scope of work and level of responsibility under the relevant work authorisation/permit/ notification is obtained and confirmed with relevant person/s in accordance with workplace procedures
	1.7	Plant, equipment, tools and personal protective equipment (PPE) required for gas pipeline surveillance work are identified, obtained and checked for correct operation and safety in accordance with workplace procedures
	1.8	Communication issues with relevant stakeholders are resolved and work coordinated in accordance with workplace procedures
	1.9	Person/s participating in the work are briefed and responsibilities confirmed in accordance with workplace procedures
	1.10	Site preparation, safety plan and work schedule are confirmed with relevant person/s in accordance with workplace procedures
2 Carry out surveillance of gas transmission pipelines	2.1	WHS/OHS risk control measures, schedule of work and workplace procedures for carrying out work are followed
	2.2	Relevant materials, tools, equipment and measuring devices are selected and used correctly and safely in

accordance with workplace procedures and manufacturer instructions

- 2.3 Dealings with customers are consistent with workplace procedures and the special needs of customers are identified and considered in targeting client service
- 2.4 Ground surveillance work is carried out to the required standard, without waste of materials or damage to apparatus, equipment, and the surrounding environment or services using sustainable energy principles
- 2.5 Leakages and damaged pipes, structures, systems and fittings are recorded in accordance with workplace procedures
- 2.6 Hazard warnings and safety signs are recognised, hazards and WHS/OHS risks and incidents are assessed and reported to authorised person/s for directions in accordance with established procedures
- 2.7 Unplanned events in the pipeline surveillance work are dealt with in accordance with level of responsibility and workplace procedures
- 2.8 System breaches, faults and operational conditions of the pipeline network are identified and resolved, where possible, and reported to relevant person/s in accordance with workplace procedures
- 2.9 Pressure and flow fluctuations outside of acceptable limits are investigated and resolved, where possible, and reported to relevant person/s in accordance with workplace procedures
- 2.10 Key issues are identified, solutions/options developed, implemented and communicated to relevant stakeholders in accordance with workplace procedures
- 2.11 Quality checks of the work are undertaken in accordance with job instructions and workplace procedures

3 Complete work and relevant documentation

- 3.1 WHS risk control work measures for work completion are followed
- 3.2 Work area is tidied and made safe in accordance with workplace procedures
- 3.3 Tools and equipment are cleaned, checked and securely

stored in accordance with workplace procedures

- 3.4 Relevant person/s are notified of work completion, non-conformances and proposed solutions/options are reported in accordance with workplace procedures
- 3.5 Relevant records, reports and documentation are completed, processed and provided to appropriate person/s in accordance with workplace procedures

Foundation Skills

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

Range of Conditions

Range is restricted to essential operating conditions and any other variables essential to the work environment.

Non-essential conditions may be found in the UEG Gas Industry Training Package Companion Volume Implementation Guide.

Unit Mapping Information

This unit replaces and is equivalent to UEGNSG349A Carry out surveillance of gas transmission pipelines.

Links

Companion Volume Implementation Guides are found in VETNet - <https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=6a6c032e-ffcb-4f3d-8063-415efbd261e8>

Assessment Requirements for UEGNSG349 Carry out surveillance of gas transmission pipelines

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 and performance criteria on at least two separate occasions and include:

- 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
 - maintaining a safe workplace
- analysing surveillance information
- applying problem-solving techniques, including implementing solutions
- applying sustainable energy and environmental, cultural and heritage principles and practices
- carrying out ground surveillance on gas transmission pipelines
- communicating effectively with others
- completing work and relevant documentation, including:
 - completing required documentation and reports
 - following work schedule, safety plan and job requirements
 - working within agreed timeframes
- dealing with unplanned events/situations in accordance with workplace procedures in a manner that minimises risk to personnel and equipment
- following workplace procedures
- identifying and investigating pressure and flow fluctuations, including operational conditions
- identifying encroachments, system breaches, faults and risks and taking appropriate action
- preparing to carry out surveillance of gas transmission pipelines
- selecting correct materials, equipment, tools, personal protection equipment (PPE) and measurement devices
- working in accordance with relevant work permit/notifications.

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:

- cultural and heritage requirements in relation to pipeline surveillance
- effective communication techniques
- overview of pipelines, components and their respective functions, including:
 - surveillance information
 - field monitoring of pipelines and components includes pressure and flow limits
 - identification and documentation of potential encroachment
 - procedures and methods for ground surveillance work
 - techniques to identify system faults and operational conditions
- pipeline risks managed through surveillance
- problem-solving techniques
- quality checks
- relevant industry standards, guidelines, codes of practice and regulations
- relevant plant, tools, equipment, measuring devices and PPE
- relevant stakeholders, including:
 - authorised persons, authorities and clients
 - rights and responsibilities
- relevant work permits and/or notifications
- relevant WHS/OHS legislated requirements, including:
 - environmental and sustainable energy principles and practices
 - hazard warnings and safety signs
 - hazards, risk assessment and control measures
- relevant workplace policies and procedures
- relevant workplace documentation
- site preparation, safety plans, job requirements and work schedules
- techniques to identify damaged and leaking pipes, fittings and appurtenances.

Assessment Conditions

As a minimum, assessors must satisfy applicable regulatory requirements, which include requirements in the Standards for Registered Training Organisations current at the time of assessment.

As a minimum, assessment must satisfy applicable regulatory requirements, which include requirements in the Standards for Registered Training Organisations current at the time of assessment.

Assessment must occur in workplace operational situations where it is appropriate to do so; where this is not appropriate, assessment must occur in simulated workplace operational situations that replicate workplace conditions.

Assessment processes and techniques must be appropriate to the language, literacy and numeracy requirements of the work being performed and the needs of the candidate.

Resources for assessment must include access to:

- a range of relevant exercises, case studies and/or 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>

UEGNSG352 Check and report on gas station conditions

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 check gas station conditions, identify minor maintenance and report gas station conditions in accordance with relevant legislation, codes of practice, standards, regulations and workplace procedures.

It includes preparing to check and report on gas station conditions, checking, testing and monitoring gas station conditions, and completing work and relevant reports and documentation.

Gas stations may include metering, compressors, valves, regulators, heaters, scraper, telemetry and odourisation facilities.

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

Pre-requisite Unit

Not applicable.

Competency Field

Gas Transmission

Unit Sector

Gas Industry

Elements and Performance Criteria

ELEMENTS

Elements describe the essential outcomes.

1 Prepare to check and report on gas station conditions

PERFORMANCE CRITERIA

Performance criteria describe the performance needed to demonstrate achievement of the element.

1.1 Work schedule/s, job requirements, drawings, plans, materials and equipment are examined to assess the extent of preparation required in accordance with workplace procedures

- 1.2 Work is prioritised and sequenced for completion within acceptable timeframes following consultation with relevant person/s in accordance with workplace procedures
 - 1.3 Work health and safety (WHS)/occupational health and safety (OHS) workplace procedures and environmental risk control measures are identified, evaluated and prioritised
 - 1.4 Job requirements and workplace procedures for the work are obtained for all work sites and communicated to relevant person/s in accordance with workplace procedures
 - 1.5 WHS/OHS, environmental and sustainable energy policies and procedures are obtained to ensure safe systems of work are followed
 - 1.6 Relevant work permit/s are obtained to coordinate the work in accordance with regulatory requirements and workplace procedures
 - 1.7 Person/s, equipment, tools and personal protective equipment (PPE) required for the job are identified, scheduled, obtained and checked for correct operation and safety in accordance with workplace procedures
 - 1.8 Communication issues with relevant stakeholders are resolved and work coordinated in accordance with work schedule and workplace procedures
 - 1.9 Person/s participating in the work are briefed and responsibilities coordinated and authorised, as required, in accordance with workplace procedures
 - 1.10 Site preparation, safety plan and work schedule are confirmed with relevant person/s in accordance with workplace procedures
- 2 **Check, test and monitor gas station conditions**
 - 2.1 WHS/OHS risk control measures and policies and procedures are followed in accordance with workplace procedures
 - 2.2 Hazardous activities are conducted safely in accordance with regulatory requirements and workplace procedures
 - 2.3 Gas station equipment and systems are inspected and tested and faults identified in accordance with work

schedule, job requirements and workplace procedures

- 2.4 Hazard warnings and safety signs are recognised, hazards and WHS/OHS risks assessed and reported to authorised person/s for directions in accordance with workplace procedures
- 2.5 Operating conditions and performance of equipment and systems are monitored through checking gauge levels, temperatures and flow indicators in accordance with manufacturer instructions and workplace procedures
- 2.6 Fault-finding and troubleshooting techniques are applied to identify repairs or maintenance required in accordance with job requirements and workplace procedures
- 2.7 Unplanned events and non-routine problems are identified and actioned in accordance with workplace procedures
- 2.8 Quality and safety checks of the work are conducted in accordance with job requirements, industry standards and workplace procedures

3 Complete work and relevant reports and documentation

- 3.1 Work undertaken is checked against work schedule for conformance and anomalies and proposed solutions reported to relevant person/s in accordance with workplace procedures
- 3.2 Incidents and injuries are reported and followed up, as required, in accordance with workplace procedures
- 3.3 Work site is rehabilitated, cleaned up and confirmed safe in accordance with workplace procedures
- 3.4 Tools and equipment are cleaned, checked and returned to storage in accordance with workplace procedures
- 3.5 Relevant entry/work permit/s are signed off in accordance with job and regulatory requirements and workplace procedures
- 3.6 Work completion records, reports, documentation and as installed/modified drawing/s are completed, processed and the appropriate person/s notified in accordance with workplace procedures

Foundation Skills

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

Range of Conditions

Range is restricted to essential operating conditions and any other variables essential to the work environment.

Non-essential conditions may be found in the UEG Gas Industry Training Package Companion Volume Implementation Guide.

Unit Mapping Information

This unit replaces and is equivalent to UEGNSG352A Check and report on gas station conditions.

Links

Companion Volume Implementation Guides are found in VETNet -
<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=6a6c032e-ffcb-4f3d-8063-415efbd261e8>

Assessment Requirements for UEGNSG352 Check and report on gas station conditions

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 and performance criteria on at least two separate occasions and include:

- identifying abnormal conditions of a station
- obtaining and interpreting relevant technical drawings and plans
- using relevant tools and equipment
- applying relevant work health and safety (WHS)/occupational health and safety (OHS) requirements, including:
 - working safely with hazardous materials and equipment
 - hazard identification and reporting
 - implementing risk control measures
 - selecting and using correct personal protective equipment (PPE)
- applying relevant industry standards, guidelines, codes of practice and regulations
- following workplace procedures
- dealing with unplanned events
- communicating with relevant person/s authorities and stakeholders
- applying planning skills
- preparing to check and report on gas station conditions
- checking, testing and monitoring gas station conditions
- completing work and relevant records, reports and documentation
- applying sustainable energy and environmental principles and practices
- obtaining relevant work permits
- applying problem-solving techniques
- conducting quality and safety checks
- inspecting equipment and systems to identify faults
- using relevant tools, equipment and materials
- rehabilitating and maintaining a clean work site.

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:

- hazardous activities, including lifting, climbing, working in confined spaces or aloft, and use of power tools
- relevant stakeholders, including:
 - authorised persons, authorities, clients, plant operators, contractors and land owners
- gas station types and functions
- abnormal conditions and faults of a station
- relevant industry standards, guidelines, codes of practice and regulations
- relevant WHS/OHS legislated requirements including:
 - hazards and risk
 - assessment and control measures
 - environmental and sustainable energy principles and practices
 - hazard warnings and safety signs
 - hazardous materials
 - PPE
- gas station conditions and reporting
- gas industry facilities and infrastructure
- operation of gas industry plant, equipment and materials
- relevant inspection and testing procedures for applicable plant and equipment
- gas industry products, processes and characteristics
- relevant gas industry documents, drawings, diagrams and plans
- relevant workplace forms, reports, records and documentation
- problem-solving and fault-finding techniques
- relevant manufacturer specifications
- relevant safe work method statements (SWMS)/job safety assessments or risk mitigation processes
- relevant workplace policies and procedures
- relevant work permits
- effective communication techniques
- operating conditions and performance of equipment and systems
- quality and safety checks.

Assessment Conditions

As a minimum, assessors must satisfy applicable regulatory requirements, which include requirements in the Standards for Registered Training Organisations current at the time of assessment.

As a minimum, assessment must satisfy applicable regulatory requirements, which include requirements in the Standards for Registered Training Organisations current at the time of assessment.

Assessment must occur in workplace operational situations where it is appropriate to do so; where this is not appropriate, assessment must occur in simulated workplace operational

situations that replicate workplace conditions.

Assessment processes and techniques must be appropriate to the language, literacy and numeracy requirements of the work being performed and the needs of the candidate.

Resources for assessment must include access to:

- a range of relevant exercises, case studies and/or 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>

UEGNSG353 Carry out aerial surveillance of gas transmission pipelines

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 carry out aerial surveillance of gas transmission pipelines, easements and/or surrounding environments; identify non-conformance; complete work and relevant documentation and report in accordance with relevant legislation, codes of practice, regulations, standards and workplace procedures.

It includes threat mitigation through identification of system non-conformance; areas to be monitored and inspection of areas system's, pipe work, structures, fittings and equipment in accordance with organisational and statutory requirements.

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

Pre-requisite Unit

Not applicable.

Competency Field

Gas Transmission

Unit Sector

Gas Industry

Elements and Performance Criteria

ELEMENTS

Elements describe the essential outcomes.

1 Prepare to carry out aerial surveillance of gas transmission pipelines

PERFORMANCE CRITERIA

Performance criteria describe the performance needed to demonstrate achievement of the element.

1.1 Job requirements and relevant drawings, plans, maps, data, materials and equipment are examined to determine the extent of required work preparation in

accordance with workplace procedures

- 1.2 Job requirements and workplace procedures for the aerial surveillance work are communicated to all relevant person/s
 - 1.3 Work health and safety (WHS)/occupational health and safety (OHS) workplace procedures and environmental and sustainable energy policies and procedures for gas pipeline surveillance are obtained and applied
 - 1.4 Work is prioritised and sequenced for completion within acceptable timeframes following consultation with relevant person/s in accordance with workplace procedures
 - 1.5 Hazards are identified, WHS/OHS and environmental risks are assessed and control measures prioritised, implemented and monitored in accordance with workplace procedures
 - 1.6 Relevant work permits are obtained to access and perform work in accordance with job requirements and workplace procedures
 - 1.7 Persons, equipment, tools and personal protective equipment (PPE) required for the pipeline surveillance work are identified, scheduled, obtained and checked for correct operation and safety in accordance with workplace procedures
 - 1.8 Communication issues with relevant stakeholders are resolved and work coordinated in accordance with work schedule and workplace procedures
 - 1.9 Person/s participating in the work are briefed and responsibilities confirmed in accordance with workplace procedures
 - 1.10 Work preparation, safety plan and work schedule are confirmed with relevant person/s in accordance with workplace procedures
- 2 **Carry out aerial surveillance of gas transmission pipelines to identify non-conformance**
 - 2.1 WHS/OHS and risk control measures, schedule of work and workplace procedures for carrying out work are followed
 - 2.2 Aerial surveillance of pipelines, easements and/or surrounding environments is conducted and faults and/or

security breaches/threats reported to relevant person/s in accordance with workplace procedures

- 2.3 Surveillance information is analysed, key issues identified and information evaluated for relevance/validity to the job requirements and confirmed by site inspection, as required
- 2.4 Dealings with customers are consistent with workplace procedures and the special needs of customers are identified and considered in targeting client service
- 2.5 Leakages, damaged pipes, fittings and appurtenances are recorded in accordance with workplace procedures
- 2.6 Hazard warnings and safety signs are recognised, hazards and WHS/OHS risks assessed and reported to authorised person/s for directions in accordance with workplace procedures
- 2.7 Unplanned events in the pipeline surveillance work are dealt with in accordance with level of responsibility and workplace procedures
- 2.8 System breaches, faults and operational conditions of the pipelines are identified and resolved, where possible, and reported to relevant person/s in accordance with workplace procedures
- 2.9 Additional works in the vicinity of the pipelines are identified and reported to relevant person/s in accordance with workplace procedures

3 Complete work and relevant documentation

- 3.1 Information gathered is analysed, anomalies, options and proposed solutions are communicated to relevant stakeholders and implemented, as required, in accordance with work schedule and workplace procedures
- 3.2 Incidents and injuries are reported, as required, in accordance with workplace procedures
- 3.3 Solutions are implemented, documented and processed and the customer advised in accordance with workplace procedures
- 3.4 Relevant records, reports and documentation are completed, processed and provided to appropriate person/s in accordance with workplace procedures

Foundation Skills

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

Range of Conditions

Range is restricted to essential operating conditions and any other variables essential to the work environment.

Non-essential conditions may be found in the UEG Gas Industry Training Package Companion Volume Implementation Guide.

Unit Mapping Information

This unit replaces and is equivalent to UEGNSG353A Carry out aerial surveillance of gas transmission pipelines.

Links

Companion Volume Implementation Guides are found in VETNet -
<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=6a6c032e-ffcb-4f3d-8063-415efbd261e8>

Assessment Requirements for UEGNSG353 Carry out aerial surveillance of gas transmission pipelines

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 and performance criteria on at least two separate occasions and include:

- applying relevant work health and safety (WHS)/occupational health and safety (OHS) requirements, including:
 - maintaining a safe workplace
 - hazard identification and reporting
 - implementing risk control measures
 - working safely with hazardous materials and equipment
- analysing surveillance information
- applying planning skills
- applying problem-solving techniques
- applying relevant industry standards, guidelines, codes of practice and regulations
- applying sustainable energy and environmental principles and practices
- carrying out aerial surveillance of gas transmission pipelines, easements and/or surrounding environments
- communicating effectively with others
- completing work and relevant documentation
- dealing with unplanned events/situations in accordance with workplace procedures in a manner that minimises risk to personnel and equipment
- following work schedule, safety plan and job requirements
- following workplace procedures
- identifying and evaluating threats to the integrity of transmission pipelines
- identifying faults
- identifying non-conformance
- implementing solutions
- interpreting technical drawings, plans, maps and data
- preparing to carry out aerial surveillance of gas transmission pipelines
- recording and reporting information
- working in accordance with relevant work permit/notifications.

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:

- effective communication techniques
- gas industry facilities and infrastructure
- gas industry products, processes and characteristics
- gas transmission pipeline environmental protection processes
- gas transmission pipeline surveillance
- problem-solving techniques
- relevant facility and pipeline drawings, plans, maps, data and diagrams
- relevant gas industry documentation
- relevant industry standards, guidelines, codes of practice and regulations
- relevant manufacturer specifications
- relevant safe work method statements (SWMS)/job safety assessments or risk mitigation processes
- relevant stakeholders, including authorised persons, authorities, landowners and clients
- relevant tools, equipment and PPE
- relevant WHS/OHS legislated requirements, including:
 - hazards, risk assessment and control measures
 - environmental and sustainable energy principles and practices
 - hazard warnings and safety signs
- relevant work permits and/or notifications
- relevant workplace documentation
- relevant workplace documentation
- relevant workplace policies and procedures
- security breaches
- signs, symbols terminology and legends as used in gas industry
- site preparation, safety plans, job requirements and work schedules
- techniques to analyse surveillance information
- techniques to identify damaged and leaking pipes, fittings and appurtenances
- techniques to identify system faults and operational conditions.

Assessment Conditions

As a minimum, assessors must satisfy applicable regulatory requirements, which include requirements in the Standards for Registered Training Organisations current at the time of assessment.

As a minimum, assessment must satisfy applicable regulatory requirements, which include requirements in the Standards for Registered Training Organisations current at the time of assessment.

Assessment must occur in workplace operational situations where it is appropriate to do so;

where this is not appropriate, assessment must occur in simulated workplace operational situations that replicate workplace conditions.

Assessment processes and techniques must be appropriate to the language, literacy and numeracy requirements of the work being performed and the needs of the candidate.

Resources for assessment must include access to:

- a range of relevant exercises, case studies and/or other simulations
- relevant and appropriate materials, tools, equipment and personal protective equipment (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>

UEGNSG354 Control excavations in the vicinity of gas transmission pipelines

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 plan, control and monitor excavations in the vicinity of gas transmission pipelines to ensure the integrity of the pipeline is not compromised.

It includes applying relevant legislation, code of practice, regulations and workplace procedures, and completing work and relevant documentation.

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

Pre-requisite Unit

UEGNSG004 Locate, prove and protect utility assets

Competency Field

Gas Transmission

Unit Sector

Gas Industry

Elements and Performance Criteria

ELEMENTS

Elements describe the essential outcomes.

1 Plan to control excavations in the vicinity of gas transmission pipelines

PERFORMANCE CRITERIA

Performance criteria describe the performance needed to demonstrate achievement of the element.

1.1 Work health and safety (WHS)/occupational health and safety (OHS), environmental and sustainable energy policies and procedures are obtained and applied to ensure safe systems of work are followed

- 1.2 Works schedule/s, job requirements, drawings, plans, materials and equipment are examined to assess the extent of required work preparation
 - 1.3 Work is prioritised and sequenced for completion within acceptable timeframes following consultation with relevant person/s in accordance with workplace procedures
 - 1.4 Utility assets are identified by contacting responsible authorities
 - 1.5 WHS/OHS and environmental risk control measures are identified, evaluated and prioritised against the work schedule
 - 1.6 Job requirements and workplace procedures for the work are obtained for all work sites and communicated to relevant person/s
 - 1.7 Relevant work permits/authorisations are obtained to coordinate the work in accordance with regulatory and job requirements and workplace procedures
 - 1.8 Resources, including person/s, equipment, tools and personal protective equipment (PPE), required for the job are identified, scheduled, coordinated and checked for correct operation and safety in accordance with workplace procedures
 - 1.9 Clients are provided with possible solutions and options within the scope, acceptable cost and requirements
 - 1.10 Communication issues with authorised persons, authorities, clients and land owners are resolved and work coordinated in accordance with work schedule and workplace procedures
 - 1.11 Person/s participating in the work are briefed, inducted and responsibilities coordinated and authorised in accordance with workplace procedures
 - 1.12 Site preparation, safety plan and work schedule are confirmed in accordance with workplace procedures
- 2 **Monitor and control excavation in the vicinity of gas transmission pipelines**
 - 2.1 WHS/OHS policies and procedures and safe work practices are followed to eliminate or minimise incidents and hazards

- 2.2 Analysis of information to identify key issues is undertaken, as required, and information is evaluated for relevance and validity to the requirements
 - 2.3 First aid and other related work procedures are performed in accordance with requirements and workplace procedures
 - 2.4 Hazardous activities are safely exercised in accordance with workplace procedures and job requirements
 - 2.5 Equipment faults are identified through inspection and testing of operational equipment in accordance with work schedule and requirements
 - 2.6 Hazard warnings and safety signs are recognised and hazards and WHS/OHS risks assessed and reported to authorised person/s for directions in accordance with workplace procedures
 - 2.7 Operating conditions of equipment are monitored in accordance with workplace procedures and manufacturer instructions
 - 2.8 Excavation is benched or shoring is used in accordance with relevant legislation and requirements
 - 2.9 Other utility assets are located and confirmed in accordance with workplace procedures
 - 2.10 Fault-finding and troubleshooting techniques are applied to identify any repairs or maintenance required in accordance with job requirements and workplace procedures
 - 2.11 Solutions to unplanned events and non-routine problems are identified and actioned in accordance with workplace procedures
 - 2.12 Quality and safety checks of the work are undertaken in accordance with workplace procedures and community and industry standards
- 3 Complete work and relevant documentation**
- 3.1 Excavation work is checked against work schedule for conformance and anomalies and proposed solutions are reported to relevant person/s in accordance with workplace procedures
 - 3.2 Accidents and injuries are reported and followed up in

accordance with requirements and workplace procedures

- 3.3** Work site is rehabilitated/cleaned up and confirmed safe in accordance with 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 work permit/s are signed off in accordance with job requirements
- 3.6** Work completion records, reports, documentation and as installed/modified drawing/s are completed, processed and appropriate person/s notified

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 Volume Implementation Guide.

Unit Mapping Information

This unit replaces and is equivalent to UEGNSG354A Control excavations in the vicinity of gas transmission pipelines.

Links

Companion Volume Implementation Guides are found in VETNet -
<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=6a6c032e-ffcb-4f3d-8063-415efbd261e8>

Assessment Requirements for UEGNSG354 Control excavations in the vicinity of gas transmission pipelines

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 and performance criteria on at least two separate occasions and include:

- applying planning skills, including contacting relevant organisations to determine utility service locations and planning to control excavation in the vicinity of gas transmission pipelines
- applying relevant work health and safety (WHS)/occupational health and safety (OHS) requirements, including:
 - applying safe manual handling techniques
 - ensuring emergency response procedures are in place
 - hazard identification and reporting
 - implementing risk control measures
 - selecting and using correct personal protective equipment (PPE)
 - working safely with hazardous materials and equipment
- applying sustainable energy and environmental principles and practices
- communicating effectively in the workplace, including conducting briefings
- completing work and relevant documentation, records, reports and drawings, including conducting quality and safety checks
- dealing with unplanned events/situations in accordance with workplace procedures in a manner that minimises risk to personnel and equipment
- identifying and evaluating threats to the integrity of transmission pipelines, including controlling threats to the integrity of transmission pipelines
- inspecting and testing equipment
- interpreting technical drawings and plans
- issuing, monitoring and controlling work permits
- locating other assets in a safe manner
- maintaining a safe and clean work site
- monitoring and controlling excavations in the vicinity gas transmission pipelines, including benching and shoring
- operating pipe locator
- performing on-site inductions

- supervising contractors.

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:

- construction and excavation machinery
- emergency, accident and incident situations, including emergency/incident control procedures and emergency response plans
- external interference physical and procedural protection measures
- fault-finding and troubleshooting techniques
- hazardous activities, including lifting, climbing, working in confined spaces and aloft
- locating utilities and services
- notification of appropriate authorities and requirements for temporary or permanent restorations
- plans, codes of practice, industry standards and drawings relevant to specific work sites
- preparing, conducting and completing an excavation, including:
 - excavation and shoring techniques, including excavating of gas industry workplace trenches and gas transmission pipeline proximity excavation
 - WHS/OHS and environmental principles and practices, including:
 - environmental and sustainable energy principles and practices
 - hazard identification and reporting
 - hazardous and flammable materials
 - implementing risk control measures
 - personal protective equipment
 - risk assessment
 - safety data sheets (SDS)/material safety data sheets (MSDS) and spill kits
- preparing an excavation site
- regulatory requirements and procedures for excavating trenches and reinstating sites
- relevant authorities or enterprises to contact regarding the location of other utilities or services, including Dial Before You Dig
- relevant industry plant, equipment, tools and materials
- relevant industry standards, guidelines, codes of practice and regulations
- relevant manufacturer specifications
- relevant plans and drawings to identify the location of utilities and services
- relevant safe work method statements (SWMS)/job safety assessments or risk mitigation processes
- relevant WHS/OHS legislated requirements, including industry standards, codes of practice and guidelines
- relevant work permits and authorisations
- relevant workplace documentation
- relevant workplace policies and procedures

- security breach 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 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>

UEGNSG355 Monitor and report on cathodic protection systems

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 monitor, test, recognise faults, and review, record and report findings and faults on cathodic protection systems. It does not include specialist cathodic protection activities.

It includes applying relevant legislation, codes of practice, regulations, standards and workplace procedures.

Work may be performed autonomously in remote locations for long periods of time and includes selecting and using the correct tools, equipment, maps, drawings and personal protection equipment (PPE) in accordance with workplace procedures.

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

Pre-requisite Unit

Not applicable.

Competency Field

Gas Transmission

Unit Sector

Gas Industry

Elements and Performance Criteria

ELEMENTS

Elements describe the essential outcomes.

1 Prepare to monitor and report on cathodic protection systems

PERFORMANCE CRITERIA

Performance criteria describe the performance needed to demonstrate achievement of the element.

1.1 Work schedules, job requirements, drawings, plans, maps, materials and equipment are examined to assess the extent of preparation required in accordance with

workplace procedures

- 1.2** Relevant person/s are consulted and work is prioritised and sequenced for completion within acceptable timeframes in accordance with workplace procedures
- 1.3** Work health and safety (WHS)/occupational health and safety (OHS) workplace procedures and environmental risk control measures are identified, evaluated, prioritised and followed
- 1.4** Job requirements and workplace procedures for the work are identified for all work sites and communicated to all relevant person/s
- 1.5** WHS/OHS, environmental and sustainable energy policies and procedures are obtained to ensure safe systems of work are followed in accordance with workplace procedures
- 1.6** Relevant work permit/s are obtained to coordinate the work in accordance with job requirements and workplace procedures
- 1.7** Person/s, equipment, tools and PPE required for the job are identified, scheduled, obtained and checked for correct operation and safety in accordance with workplace procedures
- 1.8** Communication issues with relevant stakeholders are resolved, as required, and work coordinated in accordance with work schedule and workplace procedures
- 1.9** Person/s participating in the work are briefed and responsibilities coordinated and authorised, as required, in accordance with workplace procedures
- 1.10** Site preparation, safety plan and work schedule are confirmed with relevant person/s in accordance with workplace procedures

2 Monitor and report on cathodic protection systems

- 2.1** WHS/OHS, risk control measures and environmental policies and procedures are followed in accordance with workplace procedures
- 2.2** First aid and other related work procedures are performed in accordance with job requirements and workplace procedures

- 2.3 Hazardous activities are conducted safely in accordance with workplace procedures and job requirements
 - 2.4 Equipment and systems are inspected and tested and faults identified in accordance with work schedule, job requirements and workplace procedures
 - 2.5 Hazard warnings and safety signs are recognised, hazards and WHS/OHS risks assessed and reported to authorised person/s for directions in accordance with workplace procedures
 - 2.6 Fault-finding and troubleshooting techniques are applied to identify any repairs or maintenance required in accordance with job requirements and workplace procedures
 - 2.7 Unplanned events and non-routine problems are identified and actioned in accordance with workplace procedures
 - 2.8 Quality and safety checks of the work are conducted in accordance with job requirements, industry standards and workplace procedures
- 3 Review, record and report on monitoring cathodic protection systems**
- 3.1 Work undertaken is checked against work schedule for conformance and anomalies and proposed solutions reported to relevant person/s in accordance with workplace procedures
 - 3.2 Incidents and injuries are reported, as required, in accordance with workplace procedures
 - 3.3 Work site is rehabilitated/cleaned up and confirmed safe in accordance with 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 work permit/s are signed off in accordance with job requirements
 - 3.6 Work completion records, reports, documentation and as installed/modified drawing are completed, processed and the appropriate person/s notified in accordance with workplace procedures

Foundation Skills

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

Range of Conditions

Range is restricted to essential operating conditions and any other variables essential to the work environment.

Non-essential conditions may be found in the UEG Gas Industry Training Package Companion Volume Implementation Guide.

Unit Mapping Information

This unit replaces and is equivalent to UEGNSG355A Monitor and report on cathodic protection systems.

Links

Companion Volume Implementation Guides are found in VETNet -
<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=6a6c032e-ffcb-4f3d-8063-415efbd261e8>

Assessment Requirements for UEGNSG355 Monitor and report on cathodic protection systems

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 and performance criteria on at least two separate occasions and include:

- 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:
 - working safely with hazardous materials and equipment
 - hazard identification and reporting
 - implementing risk control measures
- applying sustainable energy and environmental principles and practices
- communicating effectively with others
- completing relevant records, reports and documentation
- conducting quality and safety checks
- dealing with unplanned events/situations in accordance with workplace procedures in a manner that minimises risk to personnel and equipment
- following work schedule, safety plan and job requirements
- following workplace procedures
- identifying and recognising cathodic protection system faults
- interpreting technical drawings, plans and maps
- monitoring and reporting on cathodic protection systems
- obtaining relevant resources, tools, equipment and materials to conduct the work
- preparing to monitor and report on cathodic protection systems
- rehabilitating and maintaining a clean work site
- reporting anomalies, proposed solutions, incidents and injuries
- reviewing, recording and reporting relevant information
- selecting and using correct personal protective equipment (PPE)
- working in accordance with relevant work permit/notifications
- using and maintaining relevant cathodic protection equipment, including:
 - gas detectors
 - pipe locaters.

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:

- cathodic protection principles and equipment
- effective communication techniques
- fault-finding and troubleshooting techniques
- gas industry policies and procedures
- gas industry products, processes, characteristics, components and tolerances
- gas transmission pipelines and operating parameters
- hazardous activities, including lifting, climbing, working in confined spaces and aloft, and use of power tools
- inspection and testing procedures for cathodic protection equipment and systems
- principles, procedures and requirements for cathodic protection on a gas industry pipeline
- quality and safety checks
- relevant gas industry documentation
- relevant industry standards, guidelines, codes of practice and regulations
- relevant stakeholders, including authorised persons, authorities, landowners and clients
- relevant technical drawings, diagrams, plans and maps
- relevant WHS/OHS legislated requirements, including:
 - hazards, risk assessment and control measures
 - environmental and sustainable energy principles and practices
 - hazard warnings and safety signs
 - hazardous materials
 - PPE
- relevant work permits and/or notifications
- relevant workplace documentation
- relevant workplace policies and procedures
- reporting requirements
- site preparation, safety plans, job requirements and work schedules
- techniques to identify system faults and operational conditions.

Assessment Conditions

As a minimum, assessors must satisfy applicable regulatory requirements, which include requirements in the Standards for Registered Training Organisations current at the time of assessment.

As a minimum, assessment must satisfy applicable regulatory requirements, which include requirements in the Standards for Registered Training Organisations current at the time of assessment.

Assessment must occur in workplace operational situations where it is appropriate to do so;

where this is not appropriate, assessment must occur in simulated workplace operational situations that replicate workplace conditions.

Assessment processes and techniques must be appropriate to the language, literacy and numeracy requirements of the work being performed and the needs of the candidate.

Resources for assessment must include access to:

- a range of relevant exercises, case studies and/or 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>

UEGNSG411 Maintain cathodic protection systems

Modification History

Release 1. This is the first release of this unit of competency in the UEG Industry Gas Training Package.

Application

This unit involves the skills and knowledge required to maintain cathodic protection systems to prevent corrosion of steel gas pipelines.

It includes identifying the type and location of the cathodic protection fault, using the correct electrical equipment, maintaining and adjusting cathodic protection system and equipment, re-establishing the system and completing relevant documentation.

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

Pre-requisite Unit

Not applicable.

Competency Field

Cathodic Protection

Unit Sector

Gas Industry

Elements and Performance Criteria

ELEMENTS

Elements describe the essential outcomes.

1 Prepare and plan to maintain cathodic protection systems

PERFORMANCE CRITERIA

Performance criteria describe the performance needed to demonstrate achievement of the element.

- 1.1** Work schedule/s, job requirements, drawings, plans and maps are identified and examined to identify the system maintenance work in accordance with workplace procedures
- 1.2** Readings from cathodic protection monitoring equipment and anode beds are taken at regular intervals

and data collected in accordance with workplace procedures and industry standards

- 1.3** Work schedules and job requirements for the maintenance are identified for all work sites and communicated to all relevant person/s in accordance with workplace procedures
- 1.4** Relevant work health and safety (WHS)/occupational health and safety (OHS) workplace procedures, and environmental and sustainable energy policies and procedures are obtained and applied
- 1.5** Work is prioritised and sequenced for completion within acceptable timeframes following consultation with relevant person/s in accordance with workplace procedures
- 1.6** WHS/OHS risk control measures for identified hazards are prioritised, implemented and monitored against the work schedule in accordance with workplace procedures
- 1.7** Relevant work permits are obtained to access and perform work in accordance with job requirements and workplace procedures
- 1.8** Person/s, equipment, tools and personal protective equipment (PPE) required for the job are identified, scheduled, obtained and checked for correct operation and safety in accordance with workplace procedures
- 1.9** Relevant person/s at work site are suitably trained and qualified for the work to be performed
- 1.10** Communication issues with relevant stakeholders are resolved, as required, and work coordinated in accordance with work schedule and workplace procedures
- 1.11** Site is prepared to minimise risk and damage to property, commerce and individuals in accordance with the work schedule and workplace procedures
- 1.12** Third-party issues are referred to appropriate person/s in accordance with workplace procedures
- 1.13** Person/s participating in the work are briefed and responsibilities coordinated and confirmed in accordance with job requirements and workplace

		procedures
	1.14	Road signs, barriers and warning devices are positioned in accordance with job requirements, workplace procedures and traffic management plans
2 Maintain and adjust cathodic protection system equipment	2.1	WHS/OHS, risk control measures and environmental policies and procedures are followed in accordance with workplace procedures
	2.2	Hazardous activities are conducted safely in accordance with workplace procedures and job requirements
	2.3	Cathodic protection system is inspected, adjusted and maintained correctly and safely in accordance with job requirements, workplace procedures and industry standards
	2.4	Hazard warnings and safety signs are recognised, hazards and WHS/OHS risks assessed and reported to authorised person/s for directions in accordance with workplace procedures
	2.5	Unplanned events and non-routine problems are identified and actioned in accordance with workplace procedures
	2.6	Fault-finding and troubleshooting techniques are applied to identify any repairs or maintenance required in accordance with job requirements and workplace procedures
	2.7	Data is collected and analysed and quality checks of the work undertaken in accordance with workplace procedures and industry standards
3 Re-establish system and complete relevant documentation	3.1	Cathodic protection system is re-established, work undertaken is checked against work schedule for conformance and anomalies, and proposed solutions reported to relevant person/s in accordance with workplace procedures
	3.2	Accidents, injuries and non-conformances are reported, as required, in accordance with workplace procedures
	3.3	Work site is rehabilitated, cleaned up and made safe in accordance with 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 work permit/s are signed off and system is returned to service in accordance with job requirements and workplace procedures
- 3.6 Work completion records, reports, documentation and as installed/modified drawings are completed, processed and appropriate person/s notified in accordance with workplace procedures

Foundation Skills

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

Range of Conditions

Range is restricted to essential operating conditions and any other variables essential to the work environment.

Non-essential conditions may be found in the UEG Gas Industry Training Package Companion Volume Implementation Guide.

types of faults must include at least eight (8) of the following:

- coating damage/deterioration
- interference from other systems
- anode not working
- equipment fault/failure
- earth faults
- transformer failure
- anode bed deterioration
- anode cable failure
- telluric effects on cathodic protection systems
- isolated/insulation joint (IJ) failure and testing
- flange insulation kit (FIK) failure and testing
- cathodic protection potential surveys
- on/off potential surveys
- coating defect assessment surveys (direct current voltage gradient (DCVG) method, Pearson technique/method, over pipeline potential method)
- loop impedance testing
- anode bed testing

checks and tests on cathodic protection systems must include at least four (4) of the following:

- soil resistivity testing
- interference testing
- trad unit commissioning and testing

Unit Mapping Information

This unit replaces and is equivalent to UEGNSG411A Maintain cathodic protection systems.

Links

Companion Volume Implementation Guides are found in VETNet -
<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=6a6c032e-ffcb-4f3d-8063-415efbd261e8>

Assessment Requirements for UEGNSG411 Maintain cathodic protection systems

Modification History

Release 1. This is the first release of this unit of competency in the UEG Industry Gas 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 relevant work health and safety (WHS)/occupational health and safety (OHS) requirements, including:
 - working safely with hazardous materials and equipment
 - hazard identification and reporting
 - implementing risk control measures
 - selecting and using correct personal protective equipment (PPE)
- applying environmental principles and practices
- applying problem-solving techniques
- applying relevant industry standards, guidelines, codes of practice and regulations
- communicating effectively with others
- conducting quality and safety checks
- dealing with unplanned events/situations in accordance with workplace procedures in a manner that minimises risk to personnel and equipment
- determining types of faults
- following work schedule, safety plan and job requirements
- following workplace procedures
- inspecting, maintaining and adjusting cathodic protection system and equipment
- interpreting readings and collecting data from equipment and anode beds
- interpreting technical drawings, plans and maps
- locating and repairing faults
- obtaining relevant resources, tools, equipment and materials to conduct the work
- positioning road signs, barriers and warning devices
- preparing and planning to maintain cathodic protection systems
- re-establishing cathodic protection system and completing relevant documentation
- rehabilitating and maintaining a clean work site
- reporting anomalies and proposed solutions
- working in accordance with relevant work permit/notifications.

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:

- anode beds
- cathodic protection system design, components, operation, types and applications
- cathodic protection systems maintenance and monitoring requirements
- corrosion process and cathodic protection on a gas industry pipeline
- effective communication techniques
- electrical fundamentals, equipment, risks and licensing requirements relevant to the gas industry
- fault finding and repair/replacement requirements
- fault-finding and troubleshooting techniques
- hazardous activities, including lifting, climbing, working in confined spaces and aloft, and use of power tools
- quality and safety checks
- relevant cathodic protection monitoring equipment
- relevant documentation, records and reports
- relevant gas industry documentation
- relevant gas systems design, planning and operations
- relevant industry standards, guidelines, codes of practice and regulations
- relevant manufacturer specifications
- relevant technical drawings, diagrams, plans and maps
- relevant WHS/OHS legislated requirements, including:
 - hazards, risk assessment and control measures
 - environmental and sustainable energy principles and practices
 - hazard warnings and safety signs
 - hazardous materials
 - PPE
- relevant work permits and/or notifications
- relevant workplace policies and procedures
- requirements and procedures for referring low voltage electrical work to relevant licensed persons
- requirements and procedures for referring major repairs to supervisor
- site preparation, safety plans, job requirements and work schedules
- techniques to identify system faults and operational conditions
- third-party issues.

Assessment Conditions

As a minimum, assessors must satisfy applicable regulatory requirements, which include

requirements in the Standards for Registered Training Organisations current at the time of assessment.

As a minimum, assessment must satisfy applicable regulatory requirements, which include requirements in the Standards for Registered Training Organisations current at the time of assessment.

Assessment must occur in workplace operational situations where it is appropriate to do so; where this is not appropriate, assessment must occur in simulated workplace operational situations that replicate workplace conditions.

Assessment processes and techniques must be appropriate to the language, literacy and numeracy requirements of the work being performed and the needs of the candidate.

Resources for assessment must include access to:

- a range of relevant exercises, case studies and/or 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>

UEGNSG412 Install cathodic protection systems

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 install cathodic protection systems to prevent corrosion of steel pipelines, test and commission cathodic protection system, and complete relevant documentation in accordance with relevant legislation, code, regulations and workplace procedures.

It includes the correct installation locations for cathodic protection system and system components, interpreting drawings and specifications, testing equipment and identifying cathodic protection faults.

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

Pre-requisite Unit

Not applicable.

Competency Field

Cathodic Protection

Unit Sector

Gas Industry

Elements and Performance Criteria

ELEMENTS

Elements describe the essential outcomes.

1 Plan installation of cathodic protection system

PERFORMANCE CRITERIA

Performance criteria describe the performance needed to demonstrate achievement of the element.

- 1.1** Work schedule/s, job requirements, drawings, plans and maps are identified and examined to identify the cathodic protection system installation in accordance with workplace procedures

- 1.2** Job requirements and workplace procedures for the work are identified for all work sites and communicated to all relevant person/s
- 1.3** Relevant work health and safety (WHS)/occupational health and safety (OHS) workplace procedures and environmental and sustainable energy policies and procedures are obtained, applied and communicated to relevant person/s
- 1.4** Data from completed cathodic protection surveys is analysed and work prioritised and sequenced for completion within acceptable timeframes following consultation with relevant person/s in accordance with workplace procedures and industry standards
- 1.5** WHS/OHS risk control measures for identified hazards are prioritised, implemented and monitored against the work schedule in accordance with workplace procedures
- 1.6** Relevant work permit/s are obtained to access and perform the installation work, in accordance with job requirements, workplace procedures and industry standards
- 1.7** Technical specifications and drawings are prepared from the analysed cathodic protection survey data and approved in accordance with job requirements and workplace procedures
- 1.8** Person/s, equipment, tools and personal protective equipment (PPE) required for the job are identified, scheduled, obtained and checked for correct operation and safety in accordance with workplace procedures
- 1.9** Communication is established with relevant stakeholders to carry out the installation work in accordance with work schedule and workplace procedures
- 1.10** Site is prepared to minimise risk and damage to property, commerce and individuals in accordance with the work schedule and workplace procedures
- 1.11** Third-party issues are referred to appropriate person/s in accordance with workplace procedures
- 1.12** Person/s participating in the work are briefed and responsibilities coordinated and confirmed in

- accordance with job requirements and workplace procedures
- 1.13** Road signs, barriers and warning devices are positioned in accordance with job requirements, workplace procedures and traffic management plans
- 2 Install cathodic protection system**
- 2.1** WHS/OHS risk control measures and environmental policies and procedures are followed in accordance with workplace procedures
- 2.2** Hazardous activities are conducted safely in accordance with workplace procedures and job requirements
- 2.3** Approved specifications and drawings are reviewed and the cathodic protection system installed in accordance with the work schedule, workplace procedures and industry standards
- 2.4** Hazard warnings and safety signs are recognised, hazards and WHS/OHS risks assessed and reported to authorised person/s for directions in accordance with workplace procedures
- 2.5** Unplanned events and non-routine problems in the installation are identified and actioned in accordance with workplace procedures
- 2.6** Fault-finding and troubleshooting techniques are applied to identify any problems with the installation in accordance with job requirements and workplace procedures
- 2.7** Quality and safety checks of the work are conducted in accordance with job requirements, industry standards and workplace procedures
- 3 Test and commission cathodic protection system and complete relevant documentation**
- 3.1** Installed cathodic protection system and components are commissioned and tested for conformance and anomalies reported in accordance with regulatory requirements and workplace procedures
- 3.2** Accidents, injuries and non-conformances are reported, as required, in accordance with workplace procedures
- 3.3** Work site is rehabilitated, cleaned up and made safe in accordance with workplace procedures
- 3.4** Tools, equipment and any surplus resources and materials are cleaned, checked and stored in accordance

with workplace procedures

- 3.5 Relevant work permit/s are signed off and equipment is returned to service in accordance with job requirements and workplace procedures
- 3.6 Cathodic protection system is tested and adjusted, additional survey data collected, and work completion records and documentation completed, processed and appropriate person/s notified in accordance with workplace procedures
- 3.7 As built/as installed drawings are checked, updated and returned to the relevant cathodic protection engineering person/s in accordance with workplace procedures

Foundation Skills

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

Range of Conditions

Range is restricted to essential operating conditions and any other variables essential to the work environment.

Non-essential conditions may be found in the UEG Gas Industry Training Package Companion Volume Implementation Guide.

types of components and systems must include at least five (5) of the following:

- solar powered supply systems
- 240 Volt power supply systems
- insulation, flange insulation kit (FIK's) and monolithic joints
- sacrificial and impressed current anode beds
- battery banks — acid and lead acid battery maintenance including sg measurement
- transformer rectifiers and central processing units (CPUs)
- lighting protection equipment
- cathodic protection test points
- installation of insulated joint protectors and testing

checks and tests on cathodic protection systems must include at least four (4) of the following:

- potential surveys
- trad unit commissioning and testing
- interference testing
- on/off potential surveys

- coating defect assessment surveys (direct current voltage gradient (DCVG) method, Pearson technique/method, over pipeline potential method)
- loop impedance testing
- anode bed testing
- soil resistivity testing
- interference testing

Unit Mapping Information

This unit replaces and is equivalent to UEGNSG412A Install cathodic protection systems.

Links

Companion Volume Implementation Guides are found in VETNet -
<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=6a6c032e-ffcb-4f3d-8063-415efbd261e8>

Assessment Requirements for UEGNSG412 Install cathodic protection systems

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 relevant work health and safety (WHS)/occupational health and safety (OHS) requirements, including:
 - working safely with hazardous materials and equipment
 - hazard identification and reporting
 - implementing risk control measures
- analysing cathodic protection survey data
- applying relevant industry standards, guidelines, codes of practice and regulations
- applying sustainable energy and environmental principles and practices
- communicating effectively with others
- completing relevant records, reports and documentation
- dealing with unplanned events
- following work schedule, safety plan and job requirements
- following workplace procedures
- implementing cathodic protection tests
- installing cathodic protection sites and systems
- interpreting cathodic protection data system surveys and readings
- interpreting technical drawings, plan, maps and specifications
- locating and repairing faults
- planning installation of cathodic protection system
- positioning road signs, barriers and warning devices
- rehabilitating and maintaining a clean work site
- reporting anomalies, proposed solutions, incidents and injuries
- selecting and using correct personal protective equipment (PPE)
- testing and commissioning cathodic protection system
- working in accordance with relevant work permit/notifications.

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:

- as built/as installed drawings, technical specifications, drawings, maps and plans
- cathodic protection survey data
- cathodic protection systems installation
- cathodic protection systems operation on a gas industry pipeline
- corrosion process
- corrosion processes on a gas industry pipeline
- effective communication techniques
- fault finding and repair/replacement requirements and procedures
- fault-finding and troubleshooting techniques
- gas system design, planning and operation
- hazardous activities, including lifting, climbing, working in confined spaces and aloft, and use of power tools
- quality and safety checks
- relevant equipment and components
- relevant gas industry documentation
- relevant industry standards, guidelines, codes of practice and regulations
- relevant stakeholders, including authorised persons, authorities, landowners and clients
- relevant WHS/OHS legislated requirements, including:
 - hazards, risk assessment and control measures
 - environmental and sustainable energy principles and practices
 - hazard warnings and safety signs
 - hazardous materials
 - PPE
- relevant work permits and/or notifications
- relevant workplace documentation, records and reports
- relevant workplace policies and procedures
- site preparation, safety plans, job requirements and work schedules
- testing and commissioning requirements and procedures
- traffic management plans.

Assessment Conditions

As a minimum, assessors must satisfy applicable regulatory requirements, which include requirements in the Standards for Registered Training Organisations current at the time of assessment.

As a minimum, assessment must satisfy applicable regulatory requirements, which include requirements in the Standards for Registered Training Organisations current at the time of

assessment.

Assessment must occur in workplace operational situations where it is appropriate to do so; where this is not appropriate, assessment must occur in simulated workplace operational situations that replicate workplace conditions.

Assessment processes and techniques must be appropriate to the language, literacy and numeracy requirements of the work being performed and the needs of the candidate.

Resources for assessment must include access to:

- a range of relevant exercises, case studies and/or 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>

UEGNSG506 Respond to gas infrastructure emergencies

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 respond to gas infrastructure emergencies and attend to first response requirements of a gas distribution or transmission emergency incident in accordance with relevant legislation, codes of practice, regulations and procedures. Incidents may include, but are not limited to, gas escapes, gas outages, security breaches, fires, injury and damage.

It includes assessing the extent of the situation and type of incident from the control centre, despatching staff to assess the site and make the area safe, as required, and reporting back to the control centre.

Staff on site are responsible for identifying sources of gas leaks; reporting back to the response/control centre; identifying and controlling potential ignition sources, ventilation/evacuation from property; liaising with other authorities and emergency services; remaining on site and maintaining site safety until support arrives, as required.

This unit applies to gas distribution and transmission pipelines and facilities, and is subject to all work health and safety (WHS)/occupational health and safety (WHS/OHS) and duty of care requirements being met for the workplace.

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

Pre-requisite Unit

Not applicable

Competency Field

Control Centre Discipline

Unit Sector

Gas Industry

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 Confirm emergency/ incident and prepare to respond

- 1.1** WHS/OHS, environmental and sustainable energy policies, procedures and measures are identified, obtained and applied
- 1.2** Emergency/incident is confirmed with supervisory systems, supervisor/leader and other control centres in accordance with workplace procedures
- 1.3** Incident response is discussed with relevant person/s to confirm the emergency response plan
- 1.4** Relevant personnel are despatched to site, as required, to assess and report on details of the emergency or incident
- 1.5** Hazards and WHS/OHS risks at the site are identified, assessed and prioritised and control measures, implemented and monitored in accordance with workplace procedures
- 1.6** Relevant work permits and/or notifications are obtained, as required, to ensure the work is approved, recorded, coordinated and performed safely in accordance with regulatory requirements and workplace procedures
- 1.7** Supervisor, coordination centre, emergency authorities and land owners are communicated with regularly to confirm the emergency response in accordance with workplace procedures

2 Respond to an emergency/incident

- 2.1** WHS/OHS risk control measures and policies and procedures are followed in accordance with workplace procedures
- 2.2** Relevant emergency/incident information and actions are recorded and reported in accordance with workplace procedures
- 2.3** Operating conditions of equipment, including temperatures, flow and pressures, are monitored to determine performance of equipment/pipeline and adjustments made in accordance with emergency response procedures

- 2.4 Ongoing negotiations and communication with third parties concerning the pipeline threat are undertaken to ensure pipeline is monitored
 - 2.5 Communication with supervisor, coordination centre, emergency authorities and relevant stakeholders is undertaken and maintained in accordance with emergency requirements and workplace procedures
 - 2.6 Actions and directives from the coordination centre are applied to minimise threats to the public, pipeline, facilities and environment and to expedite control/reparation
 - 2.7 Non-routine events including emergency level being escalated are referred to authorised person/s for directions in accordance with emergency response procedures
- 3 **Hand over emergency/incident and complete relevant documentation**
 - 3.1 WHS/OHS risk control measures for work completion are followed
 - 3.2 Any incidents and injuries are reported to relevant person/s and followed up in accordance with requirements and workplace procedures
 - 3.3 Emergency/incident, including all reports, risk control measures and permit conditions are handed over to emergency/incident coordinator or relief response person in accordance with workplace procedures
 - 3.4 Work permit/s are completed and signed off in accordance with regulatory requirements and workplace procedures
 - 3.5 Work completion documentation, records, reports and as installed/modified drawings are completed and provided to appropriate person/s in accordance with workplace procedures
 - 3.6 Debriefing is conducted with relevant person/s to discuss strengths and weaknesses of emergency/incident response in accordance with workplace procedures

Foundation Skills

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

Range of Conditions

Range is restricted to essential operating conditions and any other variables essential to the work environment.

Non-essential conditions may be found in the UEG Gas Industry Training Package Companion Volume Implementation Guide.

Unit Mapping Information

This unit replaces and is equivalent to UEGNSG506A Respond to gas infrastructure emergencies.

Links

Companion Volume Implementation Guides are found in VETNet -
<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=6a6c032e-ffcb-4f3d-8063-415efbd261e8>

Assessment Requirements for UEGNSG506 Respond to gas infrastructure emergencies

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 and performance criteria on at least two separate occasions and include:

- applying relevant work health and safety (WHS)/occupational health and safety (OHS) requirements, including:
 - actioning and reporting accidents and incidents
 - hazard identification and reporting
 - implementing risk control measures
- applying and following instructions from coordination centre
- applying environmental and sustainable energy principles and practices
- applying relevant legislation, standards, regulations and codes of practice
- assessing the incident and recommending a safe working site/zone
- communicating with relevant stakeholders
- completing required documentation and reporting
- confirming emergency/incident and preparing to respond to an emergency
- dealing with unplanned events/situations in accordance with workplace procedures in a manner that minimises risk to personnel and equipment
- following emergency response procedures
- following workplace policies and procedures
- handing over emergency/incident to relevant person/s
- handing over to relevant person/s
- identifying and evaluating threats to the integrity of gas pipelines and work site
- investigating the incident and collecting evidence
- minimising threats to the public, pipeline, facilities and environment
- monitoring gas infrastructure performance
- obtaining relevant work permits/ authorisations
- participating in debrief
- responding to an emergency/incident
- reviewing incident investigation and collected evidence.

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:

- effective communication and liaison with relevant stakeholders, including:
 - workplace colleagues, supervisors and managers
 - relevant customers and suppliers
 - regulatory bodies
 - property/land owners (including traditional land owners) and tenants
 - emergency response organisations
 - repair coordinator or relief response person
 - plant operators and contractors
 - coordination centre, control centre and radio room
- emergency/incident control procedures for applicable enterprise/work site
- environmental and sustainable energy principles and practices
- escalation of emergency levels
- handover procedures
- hazards, risk assessments and control measures
- identify the nature of a situation and preliminary assessment
- operating conditions of equipment including temperatures, flow and pressures
- relevant legislation, industry standards, regulations and codes of practice
- relevant manufacturer specifications
- relevant permits and notifications required
- relevant safe work method statements (SWMS)/job safety assessments or risk mitigation processes
- relevant WHS/OHS legislated requirements
- relevant workplace documentation, report and records
- relevant workplace policies and 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 must include access to:

- a range of relevant exercises, case studies and/or other simulations
- relevant and appropriate materials, tools, equipment and personal protective equipment (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>

UEGNSG614 Load, unload, exchange and connect 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 load, unload, exchange and connect liquefied petroleum gas (LPG) cylinders to an approved installation in accordance with relevant legislation, codes of practice, regulations and workplace procedures.

It includes following procedures to correctly and safely carry out the work using appropriate materials, tools and equipment.

This unit applies to work sites where the distribution of LPG cylinders occurs, including cylinder delivery drivers and service/installation gas fitters who exchange LPG gas cylinders connected to an approved gas installation.

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

Elements describe the essential outcomes.

1 Prepare to load/unload truck, exchange and connect LPG cylinders

PERFORMANCE CRITERIA

Performance criteria describe the performance needed to demonstrate achievement of the element.

1.1 Job requirements and workplace procedures for the work are obtained and discussed with relevant person/s to establish and confirm the work schedule

- 1.2 Work health and safety (WHS)/occupational health and safety (OHS), environmental and sustainable energy policies and procedures for the work are obtained and applied
 - 1.3 Recommendations to assist with the loading, applying cylinder load restraint, unloading and exchanging of gas cylinders are made to others involved in the work as required
 - 1.4 Hazards and WHS/OHS risks are identified and prioritised and control measures implemented and monitored
 - 1.5 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
 - 1.6 Safety and emergency response procedures and responsibilities for first aid at the work site are confirmed with relevant person/s in accordance with workplace procedures
 - 1.7 Client/customer issues are referred to appropriate person/s in accordance with workplace procedures and industry standards
 - 1.8 Site is prepared to minimise risk and damage to property, commerce and individuals in accordance with job instructions, work schedule and workplace procedures
- 2 Load/unload truck, exchange and connect LPG cylinders**
- 2.1 WHS/OHS risk control measures and policies and procedures are followed in accordance with workplace procedures
 - 2.2 Hazardous activities are performed safely in accordance with job instructions, regulatory requirements and workplace procedures
 - 2.3 Truck is correctly positioned for the loading, unloading and exchanging of gas cylinders to ensure completion in agreed timeframes with a minimum of waste and to industry standards
 - 2.4 Loading, applying cylinder load restraint, transporting, unloading, exchanging and connection of gas cylinders is conducted in accordance with job instructions and

workplace procedures

- 2.5 Gas connection between cylinder and gas installation is leak tested to ensure gas cylinder tightness
- 2.6 Potential hazards and safety risks are identified and reported to authorised person/s for directions in accordance with workplace procedures
- 2.7 Unplanned and non-routine events and are referred to authorised person/s for directions in accordance with workplace procedures
- 2.8 Fault-finding and troubleshooting techniques are applied to problems encountered with the loading, unloading and exchanging of gas cylinders to ensure work schedule and job requirements are met
- 2.9 Quality and safety checks of the work are conducted in accordance with job requirements, industry standards and workplace procedures

3 Complete work and relevant documentation

- 3.1 Work undertaken is checked against work schedule and anomalies reported to relevant person/s in accordance with workplace procedures
- 3.2 Accidents and incidents are actioned and reported to relevant 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 Delivery documentation and work completion records, report forms and data sheets are completed 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 Volume Implementation Guide.

Unit Mapping Information

This unit replaces and is equivalent to UEGNSG614A Load, unload, exchange and connect LPG cylinders.

Links

Companion Volume Implementation Guides are found in VETNet -
<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=6a6c032e-ffcb-4f3d-8063-415efbd261e8>

Assessment Requirements for UEGNSG614 Load, unload, exchange and connect 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 and performance criteria on at least two separate occasions and include:

- applying relevant industry standards, guidelines, codes of practice and regulations
- applying relevant work health and safety (WHS)/occupational health and safety (OHS) requirements, including:
 - working safely with hazardous materials and equipment
 - hazard identification and reporting
 - implementing risk control measures
 - selecting and using correct personal protective equipment (PPE)
 - emergency procedures and response actions
- applying sustainable energy and environmental principles and practices
- communicating with relevant person/s
- completing work and relevant documentation
- conducting quality and safety checks
- dealing with unplanned events/situations in accordance with workplace procedures in a manner that minimises risk to personnel and equipment
- exchanging and connecting liquified petroleum gas (LPG) cylinders
- following workplace procedures
- loading and unloading cylinders and apply cylinder load restraint
- obtaining and using relevant equipment and tools, including:
 - cylinder trolleys
 - hoses and fittings
 - hand tools
 - leak detection fluid
 - truck tail gate loader
 - tray gates and ropes
- positioning truck correctly
- preparing to load/unload truck, exchange and connect LPG cylinders.

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:

- hazardous activities, including lifting, climbing, working in confined spaces and aloft, and use of power tools
- fault-finding and troubleshooting techniques
- leak detection methods
- LPG cylinders, including:
 - cylinder installation requirements
 - properties of LPG
 - types, construction, size, valves, labelling and material safety data sheets/safety data sheets (MSDS/SDS)
 - handling, loading, unloading and exchanging
 - disconnecting and connecting
 - out of gas procedures
- LPG cylinder transport requirements, including:
 - cylinder load restraint
 - transport of dangerous goods placard loads
 - dangerous goods routes
- quality and safety checks
- relevant legislation, regulations, codes of practice, industry standards and policies, including dangerous goods codes
- relevant safe work method statements (SWMS)/job safety assessments or risk mitigation processes
- relevant workplace documentation, forms, records and reports
- relevant workplace policies and procedures
- relevant WHS/OHS legislated requirements, including:
 - applicable emergency equipment and procedures
 - hazards, risk assessment and control measures
 - environmental and sustainable energy principles and practices
 - hazard warnings and safety signs
 - manual handling
 - job safety assessments
 - hazardous materials
 - use of spill kits and PPE
- types of accidents and emergencies, including fire and gas leak
- workplace quality requirements and specifications.

Assessment Conditions

As a minimum, assessors must satisfy applicable regulatory requirements, which include requirements in the Standards for Registered Training Organisations current at the time of assessment.

As a minimum, assessment must satisfy applicable regulatory requirements, which include requirements in the Standards for Registered Training Organisations current at the time of assessment.

Assessment must occur in workplace operational situations where it is appropriate to do so; where this is not appropriate, assessment must occur in simulated workplace operational situations that replicate workplace conditions.

Assessment processes and techniques must be appropriate to the language, literacy and numeracy requirements of the work being performed and the needs of the candidate.

Resources for assessment must include access to:

- a range of relevant exercises, case studies and/or 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>

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

Elements describe the essential outcomes.

1 Prepare to fill LPG cylinders

PERFORMANCE CRITERIA

Performance criteria describe the performance needed to demonstrate achievement of the element.

- 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

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

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 handling 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

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>

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 liquefied 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.

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

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>

UEGNSG616 Refurbish gas 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, test and refurbish approved liquefied petroleum gas (LPG) cylinders, and complete work and relevant documentation.

It includes correctly and safely carrying out the work using appropriate materials, tools and equipment in accordance with relevant legislation, codes of practice, industry standards, regulations and workplace procedures.

Certification is required for LPG cylinder testing locations, and cylinder testing must be conducted under supervision and in accordance with industry standards and regulations.

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

Elements describe the essential outcomes.

1 Prepare to refurbish LPG cylinders

PERFORMANCE CRITERIA

Performance criteria describe the performance needed to demonstrate achievement of the element.

- 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 work are obtained and applied
 - 1.3 Relevant person/s are consulted to ensure the work is coordinated effectively and recommendations to assist with the refurbishing 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 Materials, tools and personal protective equipment (PPE) required for the work are obtained and checked for correct operation and safety in accordance with workplace procedures and manufacturer instructions
 - 1.6 Responsibilities for incidents, emergencies and other related work safety procedures at the work site are confirmed with relevant person/s to ensure safety measures are followed
 - 1.7 Client issues are referred to relevant person/s in accordance with industry and community 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 refurbish 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 inspecting and refurbishing LPG cylinders are conducted in accordance with job instructions, safety requirements and workplace procedures
 - 2.3 Refurbishing of gas cylinders is carried out in accordance with job instructions, industry standards, regulations and workplace procedures
 - 2.4 Hazard warnings and safety signs are recognised, hazards assessed and WHS/OHS risks reported to

authorised person/s for directions in accordance with workplace procedures

- 2.5 Cylinders that are damaged or do not comply to industry and safety standards are coded and condemned in accordance with workplace procedures
- 2.6 Unplanned events are referred to authorised person/s for directions in accordance with workplace procedures
- 2.7 Problems associated with the refurbishing of gas cylinders are resolved by using problem-solving techniques in accordance with workplace procedures industry standards and regulations
- 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 Completed work is checked against work schedule and anomalies reported to authorised person/s in accordance with workplace procedures
- 3.2 Accidents and incidents are actioned as required and reported to authorised persons 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 Inspection results and completion processes are undertaken 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 Volume Implementation Guide.

competency must be demonstrated in relation to:

- inspecting and refurbishing LPG cylinders at a work site registered and certified as a LPG cylinder test station

Unit Mapping Information

This unit replaces and is equivalent to UEGNSG616A Refurbish gas cylinders.

Links

Companion Volume Implementation Guides are found in VETNet -
<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=6a6c032e-ffcb-4f3d-8063-415efbd261e8>

Assessment Requirements for UEGNSG616 Refurbish gas 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:
 - applying safe manual handling techniques
 - hazard identification and reporting
 - implementing risk control measures
 - recognising and assessing hazard warnings and safety signs
 - selecting and using relevant personal protective equipment (PPE)
 - undertaking hazardous activities in a safe manner
 - undertaking job safety analysis (JSA)
- coding and condemning damaged/non-complying cylinders
- communicating effectively with relevant person/s
- completing work and relevant documentation
- conducting inspection checks before returning cylinder to service
- 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
- following manufacturer instructions
- following workplace procedures
- inspecting and refurbishing liquified petroleum gas (LPG) cylinders
- maintaining a clean and safe work site
- performing quality and safety checks
- preparing to refurbish LPG cylinders
- preparing work site to minimise risk and damage to property, commerce and individuals
- recording inspection/refurbishment information accurately on gas industry forms and reports
- referring client issues

- selecting and operating correct tools and equipment
- working within agreed timeframes or conditions.

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
- accidents and incidents associated with refurbishing gas cylinders
- client issues
- environmental and sustainable energy principles and practices
- inspection and completion process
- LPG cylinders, including:
 - coding
 - condemning and disposal
 - inspection requirements
 - leak testing requirements
 - material safety data sheets/safety data sheets (MSDS/SDS)
 - properties of LPG
 - refurbishment requirements
 - types, construction, size, valves and labelling
- PPE, including types, application, checking, maintenance and storage
- problem-solving techniques
- quality and safety checks
- relevant industry standards, legislation, guidelines, codes of practice and regulations
- relevant manufacturer specifications
- relevant materials, tools and equipment
- relevant safe work method statements (SWMS)/job safety assessments or risk mitigation processes
- relevant WHS/OHS policies and procedures, including:
 - hazard identification, risk assessment and control
 - safe manual handling techniques
 - safety signs including workplace hazards and warnings
- relevant WHS/OHS legislated requirements
- relevant workplace documentation
- relevant workplace policies and procedures
- site preparation, work schedules, safety plans and job requirements
- storage of dangerous goods
- time-management skills
- workplace quality requirements

- workplace reporting requirements.

Assessment Conditions

As a minimum, assessors must satisfy applicable regulatory requirements, which include requirements in the Standards for Registered Training Organisations current at the time of assessment.

As a minimum, assessment must satisfy applicable regulatory requirements, which include requirements in the Standards for Registered Training Organisations current at the time of assessment.

Assessment 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>

UEGNSG617 Monitor and control the transfer of bulk LPG

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 safely transfer liquified petroleum gas (LPG) in to or out of bulk storage at an LPG terminal or refinery by pipelines and hoses. It includes ship to tank, tank to tank, tank to tanker and tank to distribution network.

It also includes following workplace procedures to correctly and safely carry out the work using appropriate materials, tools and equipment, applying relevant emergency response procedures and completing relevant documentation.

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

Elements describe the essential outcomes.

1 Plan and prepare for the bulk transfer of LPG

PERFORMANCE CRITERIA

Performance criteria describe the performance needed to demonstrate achievement of the element.

- 1.1** Material lists are obtained, analysed and confirmed by site inspection, as required, and availability of equipment is determined in accordance with work schedule/s and workplace procedures and

- 1.2 Job requirements and workplace procedures for the transfer are obtained for all work sites and communicated to relevant person/s in accordance with workplace procedures
 - 1.3 Work health and safety (WHS)/occupational health and safety (OHS), environmental and sustainable energy policies and procedures for monitoring and controlling the transfer of LPG are obtained and communicated to relevant person/s
 - 1.4 Work is prioritised and sequenced for completion within acceptable timeframes following consultation with relevant person/s in accordance with workplace procedures
 - 1.5 Hazards and WHS/OHS risks are identified and prioritised and control measures implemented and monitored
 - 1.6 Equipment is checked for correct operation and safety and relevant work permit/s are obtained to access, isolate/de-energise systems and perform the work in accordance with regulatory requirements and workplace procedures
 - 1.7 Pipelines and hoses are connected and personal protective equipment (PPE) required for the transfer is identified, scheduled, obtained and checked for correct operation and safety in accordance with workplace procedures
 - 1.8 Communication issues with relevant stakeholders are resolved and work coordinated in accordance with work schedule and workplace procedures
 - 1.9 Site is prepared and valves operated to minimise risk and damage to property, commerce and individuals in accordance with the work schedule and workplace procedures
 - 1.10 Person/s participating in the work, including plant operators and contractors, are briefed and responsibilities coordinated in accordance with workplace procedures
- 2 Control the transfer of LPG**
- 2.1 WHS/OHS risk control measures and policies and procedures are followed in accordance with workplace

procedures

- 2.2 Hazardous activities are performed safely and currency maintained, as required, in accordance with regulatory requirements and workplace procedures
- 2.3 LPG transfer is monitored and controlled to ensure completion in agreed timeframes with a minimum of waste and damage to the surrounding environment or services and using sustainable energy principles
- 2.4 Monitoring the transfer of LPG is carried out in accordance with the work schedule and workplace procedures
- 2.5 Transfer equipment is operated safely and identified hazards, WHS/OHS risks and control measures are monitored and preventative action taken in accordance with requirements and workplace procedures
- 2.6 Pressure limits and liquid levels are monitored and any unplanned events encountered in the LPG transfer are actioned in accordance with workplace procedures
- 2.7 Problem-solving techniques and emergency response procedures are applied to unplanned events or incidents in accordance with workplace procedures
- 2.8 Quality and safety checks of the bulk LPG transfer are undertaken in accordance with workplace procedures

3 Complete work and relevant documentation

- 3.1 LPG transfer is checked against work schedule for conformance with requirements and anomalies reported in accordance with workplace procedures
- 3.2 Accidents and injuries are reported in accordance with requirements and 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 work permit/s are signed off and equipment is returned to service in accordance with requirements and workplace procedures

- 3.6** Emergency shutdown procedures are applied in the event of serious equipment failure or operational parameters being exceeded in accordance with workplace procedures
- 3.7** Work completion records, reports and documentation are completed, processed and appropriate person/s notified in accordance with workplace procedures

Foundation Skills

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

Range of Conditions

Range is restricted to essential operating conditions and any other variables essential to the work environment.

Non-essential conditions may be found in the UEG Gas Industry Training Package Companion Volume Implementation Guide.

- transfer applications must include at least two (2) of the following:
- ship to storage terminal
 - tank to tank
 - tanker to tanker
- equipment must include at least four (4) of the following:
- pumps and compressors
 - pipes
 - hoses
 - valves
 - gauges
 - tank connections and fittings
 - articulated arms
 - earthing clamps and connections

Unit Mapping Information

This unit replaces and is equivalent to UEGNSG617A Monitor and control the transfer of bulk LPG.

Links

Companion Volume Implementation Guides are found in VETNet - <https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=6a6c032e-ffcb-4f3d-8063-415efbd261e8>

Assessment Requirements for UEGNSG617 Monitor and control the transfer of bulk LPG

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 relevant work health and safety (WHS)/occupational health and safety (OHS) requirements, including:
 - working safely with hazardous materials and equipment
 - hazard identification and reporting
 - implementing risk control measures
 - selecting and using correct personal protective equipment (PPE)
- applying relevant industry standards, guidelines, codes of practice and regulations
- applying sustainable energy and environmental principles and practices
- communicating with relevant stakeholders
- completing work and relevant documentation
- conducting quality and safety checks
- conducting site inspections
- dealing with unplanned events/situations in accordance with workplace procedures in a manner that minimises risk to personnel and equipment
- following workplace procedures
- identifying and reporting anomalies
- isolating and de-energising systems
- maintaining a clean work site
- monitoring and controlling the liquified petroleum gas (LPG) transfer
- obtaining and complying with relevant work permits
- planning and preparing for the bulk transfer of LPG
- using relevant equipment.

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:

- compliance requirements
- fault-finding and troubleshooting techniques
- relevant stakeholders, including authorised persons, authorities, clients, tenants and land owners
- hazardous activities, including lifting, climbing, working in confined spaces and aloft, and use of power tools
- dangerous goods codes
- manufacturer specifications
- relevant legislation, regulations, codes, standards and policies
- relevant WHS/OHS legislated requirements, including:
 - applicable emergency equipment and procedures
 - hazards, risk assessment and control measures
 - environmental and sustainable energy principles and practices
 - hazard warnings and safety signs
 - manual handling
 - job safety assessments
 - hazardous materials
 - use of spill kits and PPE
- LPG bulk storage vessels, including:
 - properties of LPG
 - types, construction, size, valves, labelling, and material safety data sheets/safety data sheets (MSDS/SDS)
 - inspection procedures
- LPG bulk transfer, including:
 - requirements, applications, methods and procedures
 - equipment/tools
 - types
 - compressors, pumps, pipes and hoses
 - gas alarm and communication equipment
 - ignition prevention/control
 - leak testing requirements
- oral and written communication techniques
- problem-solving techniques
- quality and safety checks
- relevant safe work method statements (SWMS)/job safety assessments or risk mitigation processes
- relevant work permits
- relevant workplace documentation, forms and reports
- relevant workplace policies and procedures
- site inspections
- workplace quality requirements and specifications.

Assessment Conditions

As a minimum, assessors must satisfy applicable regulatory requirements, which include requirements in the Standards for Registered Training Organisations current at the time of assessment.

As a minimum, assessment must satisfy applicable regulatory requirements, which include requirements in the Standards for Registered Training Organisations current at the time of assessment.

Assessment must occur in workplace operational situations where it is appropriate to do so; where this is not appropriate, assessment must occur in simulated workplace operational situations that replicate workplace conditions.

Assessment processes and techniques must be appropriate to the language, literacy and numeracy requirements of the work being performed and the needs of the candidate.

Resources for assessment must include access to:

- a range of relevant exercises, case studies and/or 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>

UEGNSG618 Process liquefied petroleum gas (LPG)

Modification History

Release 1. This is the first release of this unit of competency in the UEG Gas Training Package.

Application

This unit involves the skills and knowledge required to process liquefied petroleum gas (LPG).

It includes processing and monitoring LPG; applying relevant emergency response procedures in an emergency; using appropriate materials, tools and equipment; and completing relevant documentation.

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

Elements describe the essential outcomes.

1 Prepare to process LPG

PERFORMANCE CRITERIA

Performance criteria describe the performance needed to demonstrate achievement of the element.

- 1.1 Mix/blend properties, specifications, requirements and workplace procedures for the LPG transfer are obtained for work sites and communicated to relevant person/s in accordance with workplace procedures
- 1.2 Tank/s, pipelines and hoses are connected in accordance with manufacturer specifications and workplace procedures

- 1.3 Appropriate valves are operated in the correct sequence and workplace procedures for the work are obtained for all work sites and communicated to relevant person/s in accordance with workplace procedures
 - 1.4 Work health and safety (WHS)/occupational health and safety (OHS), environmental and sustainable energy policies and procedures for processing LPG are obtained and communicated to relevant person/s
 - 1.5 Work is prioritised and sequenced for completion within acceptable timeframes following consultation with relevant person/s in accordance with workplace procedures
 - 1.6 Hazards and WHS/OHS risks are identified and prioritised and control measures implemented and monitored
 - 1.7 Relevant work permits/authorisations are obtained to access, isolate/de-energise systems and perform the work in accordance with regulatory requirements and workplace procedures
 - 1.8 Appropriate equipment, tools and personal protective equipment (PPE) required for the job are identified, scheduled, obtained and checked for correct operation and safety in accordance with workplace procedures
 - 1.9 Communication with authorised person/s, authorities, clients and land owners is conducted and work coordinated in accordance with work schedule and workplace procedures
 - 1.10 Site is prepared to minimise risk and damage to property, commerce and individuals in accordance with work schedule and workplace procedures
 - 1.11 Person/s participating in the work, including plant operators and contractors, are briefed and responsibilities coordinated in accordance with workplace procedures
- 2 Conduct LPG processing
 - 2.1 WHS/OHS risk control measures and policies and procedures are followed in accordance with workplace procedures
 - 2.2 Hazardous activities are performed safely and currency maintained, as required, in accordance with regulatory

requirements and workplace procedures

- 2.3 LPG is processed ensuring completion in agreed timeframes with a minimum of waste and damage to the surrounding environment or services and using sustainable energy principles
- 2.4 LPG is processed and controls adjusted and monitored in accordance with work schedule, job requirements and workplace procedures
- 2.5 Hazard warnings and safety signs are recognised, hazards and WHS/OHS risks assessed and reported to authorised person/s for directions in accordance with workplace procedures
- 2.6 Unplanned events encountered in the processing of LPG are responded to in accordance with emergency response procedures
- 2.7 Fault-finding and troubleshooting techniques are applied to problems encountered when processing LPG in accordance with workplace procedures
- 2.8 Quality and safety checks of work are conducted in accordance with work instructions and workplace procedures

3 Complete work and relevant documentation

- 3.1 Work undertaken is checked against work schedule for conformance and anomalies reported in accordance with workplace procedures
- 3.2 Accidents and injuries are reported in accordance with requirements and workplace procedures
- 3.3 Shutdown of LPG processing equipment is completed in accordance with workplace procedures and operating conditions
- 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 work permit/s are signed off and equipment is returned to service in accordance with requirements and workplace procedures
- 3.6 Work completion records and reports are completed, processed and appropriate person/s notified in

accordance with workplace procedures

Foundation Skills

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

Range of Conditions

Range is restricted to essential operating conditions and any other variables essential to the work environment.

Non-essential conditions may be found in the UEG Gas Industry Training Package Companion Volume Implementation Guide.

monitoring checks must include at least four (4) of the following:

- stock levels
- pressures
- gas heating valves
- shutdown system
- molecular sieve de-odourisation
- aeration

processing LPG must include the following:

- blending/mixing LPG
- manufacturing LPG
- de-odourising LPG

Unit Mapping Information

This unit replaces and is equivalent to UEGNSG618A Process Liquefied Petroleum Gas (LPG).

Links

Companion Volume Implementation Guides are found in VETNet -

<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=6a6c032e-ffcb-4f3d-8063-415efbd261e8>

Assessment Requirements for UEGNSG618 Process liquefied petroleum gas (LPG)

Modification History

Release 1. This is the first release of this unit of competency in the UEG Gas 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 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
 - selecting and using correct personal protective equipment (PPE)
 - work safely with hazardous materials and equipment
- applying sustainable energy and environmental principles and practices
- communicating with relevant person/s
- completing shutdown
- completing work and relevant documentation
- conducting quality and safety checks
- connecting pipelines and hoses
- dealing with unplanned events/situations in accordance with workplace procedures in a manner that minimises risk to personnel and equipment
- following procedures for emergency response, including:
 - equipment failure
 - gas leaks and fire
 - hazards and incidents
- following workplace procedures
- identifying and reporting anomalies
- isolating and de-energising systems
- monitoring and adjusting controls
- obtaining and complying with relevant work permits/authorisations
- obtaining and using relevant equipment, including
 - control and monitoring equipment
 - mixing/sampling equipment
 - pumps

- valves
- vessels
- operating valves in correct sequence
- preparing to process liquefied petroleum gas (LPG)
- processing LPG
- reporting anomalies.

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:

- compliance requirements
- equipment/tools, including:
 - analytical judgements for appropriate adjustments to plant and equipment
 - types, selection, manufacturer specifications/instructions, testing and set up
 - variations and irregularities identification
- fault-finding and troubleshooting techniques
- hazardous activities, including lifting, climbing, working in confined spaces or aloft, and use of power tools
- LPG processing, including:
 - requirements, applications, methods and procedures
 - gas analysis equipment
 - gas alarm and communication equipment
- oral and written communication techniques
- product specifications and quality assurance documentation
- quality and safety checks
- relevant industry standards, guidelines, codes of practice and regulations
- relevant manufacturer specifications
- relevant safe work method statements (SWMS)/job safety assessments or risk mitigation processes
- relevant WHS/OHS legislated requirements, including:
 - emergency response equipment and procedures
 - environmental and sustainable energy principles and practices
 - hazard warnings and safety signs
 - hazardous materials
 - hazards, risk assessment and control measures
 - responding to emergency and accident situations
 - safe manual handling techniques
 - use of spill kits and PPE
- relevant work permits/authorisations

- relevant workplace policies and procedures
- relevant workplace reporting requirements and documentation
- shutdown procedures
- workplace quality requirements and specifications.

Assessment Conditions

As a minimum, assessors must satisfy applicable regulatory requirements, which include requirements in the Standards for Registered Training Organisations current at the time of assessment.

As a minimum, assessment must satisfy applicable regulatory requirements, which include requirements in the Standards for Registered Training Organisations current at the time of assessment.

Assessment must occur in workplace operational situations where it is appropriate to do so; where this is not appropriate, assessment must occur in simulated workplace operational situations that replicate workplace conditions.

Assessment processes and techniques must be appropriate to the language, literacy and numeracy requirements of the work being performed and the needs of the candidate.

Resources for assessment must include access to:

- a range of relevant exercises, case studies and/or 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>

UEGNSG619 Perform scheduled maintenance on gas processing or storage facilities and equipment

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 carry out scheduled maintenance, and repair and replace parts on liquefied petroleum gas (LPG) processing or storage facilities and equipment.

It includes repairing/replacing pressure vessels, valves and fittings, transfer equipment, pumps, compressors, transfer hoses, pipework and seals.

It also includes following procedures to correctly and safely carry out the work using appropriate materials, tools and equipment.

This unit applies to work sites where LPG is processed and stored, and subject to all work health and safety (WHS)/occupational health and safety (OHS) and duty of care requirements being met for the workplace.

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

Elements describe the essential outcomes.

PERFORMANCE CRITERIA

Performance criteria describe the performance needed to demonstrate achievement of the element.

- 1 Prepare for maintenance and repair activities**
 - 1.1** Appropriate facilities, tools, testing and measuring instruments, drawings, plans, materials and components for the work are selected in accordance with the work schedule/s and workplace procedures
 - 1.2** Job requirements and workplace procedures for the work are obtained for all work sites/facilities and communicated to relevant person/s
 - 1.3** WHS/OHS, environmental and sustainable energy policies and procedures related to performing minor maintenance on LPG processing and storage facilities and equipment are obtained and applied
 - 1.4** Work is prioritised and sequenced for completion within acceptable timeframes following consultation with others in accordance with workplace procedures
 - 1.5** Hazards and WHS/OHS risks are identified and prioritised and control measures implemented and monitored against the work schedule
 - 1.6** Relevant work permits are obtained to access and perform the work and facilities and equipment is isolated, depressurised, purged, tagged and locked out before repair/maintenance work is undertaken
 - 1.7** Appropriate equipment, tools and personal protective equipment (PPE) required for the job are identified, scheduled, obtained and confirmed in working order
 - 1.8** Responsibilities for first aid and other emergency incidents at the work site are confirmed with relevant person/s in accordance with workplace procedures
 - 1.9** Communication with authorised person/s, authorities, clients and land owners is conducted, as required, and work coordinated in accordance with the work schedule
 - 1.10** Site is prepared to minimise risk and damage to property, commerce and individuals in accordance with the work schedule and workplace procedures
 - 1.11** Persons participating in the work, including plant operators and contractors, are briefed and responsibilities confirmed in accordance with workplace procedures
 - 1.12** Fault-finding and troubleshooting techniques are applied

		to operational systems to identify any repairs or maintenance required in accordance with job requirements and workplace procedures
	1.13	Road signs, barriers and warning devices are positioned in accordance with job requirements and traffic management plan
2 Perform scheduled maintenance and repairs	2.1	WHS/OHS policies and procedures and safe work practices are followed to eliminate or minimise incidents and hazards
	2.2	Hazardous activities are performed safely and currency maintained, as required, in accordance with regulatory requirements and workplace procedures
	2.3	Maintenance and repairs on LPG processing/storage facilities and equipment are coordinated to ensure completion in agreed timeframe, to industry standards and with a minimum of waste in accordance with job requirements
	2.4	Adjustments to calibration and test equipment/devices are made in accordance with manufacturer instructions to ensure equipment/devices operate within specific ranges and to maintain correct flow parameters
	2.5	Hazard warnings and safety signs are recognised and WHS/OHS risks assessed and reported to the authorised person/s for directions in accordance with workplace procedures
	2.6	Unplanned events encountered when performing maintenance on LPG processing/storage facilities and equipment are identified and actioned in accordance with workplace procedures
	2.7	Maintenance is performed and parts repaired or replaced by applying problem-solving techniques in accordance with workplace procedures and job requirements
	2.8	Quality and safety checks of the maintenance work are conducted in accordance with job instructions, industry standards and workplace procedures
3 Complete scheduled maintenance and relevant documentation	3.1	Maintenance results are documented and work undertaken is checked against work schedule/s for conformance and anomalies reported in accordance with workplace procedures

- 3.2 Accidents and injuries are reported in accordance with requirements and workplace procedures
- 3.3 Work site is rehabilitated, 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 work permit/s are signed off and equipment is returned to service in accordance with job and regulatory requirements
- 3.6 Work completion records, reports and documentation are completed, processed and appropriate person/s notified in accordance with workplace procedures

Foundation Skills

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

Range of Conditions

Range is restricted to essential operating conditions and any other variables essential to the work environment.

Non-essential conditions may be found in the UEG Gas Industry Training Package Companion Volume Implementation Guide.

equipment must include at least seven (7) of the following:

- pressure vessel
- vapourisers
- earth connections
- relief valves
- system(s) isolation
- emergency shutdown valving, including – idle speed control (ISC) valves
- manual shutdown valving
- pipe work
- vessel footings
- regulators
- hoses and couplings
- pumps
- compressors

identifying irregularities must include at least three (3) of the following:

- incorrect flow rates
- corrosion
- impact damage
- point deterioration
- leakage
- non-operability of shutdown systems
- equipment out of calibration
- excess flow valves
- relief valves
- pressure regulators/springs
- pump seals/compressor seals
- pressure gauges
- bypass valves
- meters
- solenoids
- valves
- break away couplings
- meter heads
- transfer hoses

scheduled maintenance, repairs and replacement of parts must include at least six (6) of the following:

Unit Mapping Information

This unit replaces and is equivalent to UEGNSG619A Perform scheduled maintenance on gas processing or storage facilities and equipment.

Links

Companion Volume Implementation Guides are found in VETNet -
<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=6a6c032e-ffcb-4f3d-8063-415efbd261e8>

Assessment Requirements for UEGNSG619 Perform scheduled maintenance on gas processing or storage facilities and equipment

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 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
 - selecting and using correct personal protective equipment (PPE)
 - work safely with hazardous materials and equipment
- adjusting calibration and testing equipment
- applying problem solving techniques
- applying sustainable energy and environmental principles and practices
- communicating with relevant stakeholders
- completing scheduled maintenance and relevant documentation
- conducting briefings
- dealing with unplanned events/situations in accordance with workplace procedures in a manner that minimises risk to personnel and equipment
- following manufacturer specifications
- following work orders/work schedules
- identifying required repairs/maintenance
- isolating, purging, depressurising, tagging and locking out facilities and equipment
- obtaining and complying with relevant work permits
- obtaining relevant tools, testing and measuring instruments, drawings, plans and materials
- performing scheduled maintenance and repairs
- positioning road signs, barriers and warning devices
- preparing for maintenance and repair activities
- rehabilitating work site
- returning equipment to service.

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:

- relevant industry standards, guidelines, codes of practice and regulations
- relevant WHS/OHS legislated requirements, including:
 - hazards, risk assessment and control measures
 - environmental and sustainable energy principles and practices
 - safety signs, including workplace hazards and warnings
 - work permits, Job hazard analysis (JHA), job safety analysis (JSA), job safety environment analysis (JSEA) and safe work method statements (SWMS)
 - use of spill kits and PPE
 - manual handling characteristics, types and techniques
 - accidents and emergency types, including fire, and gas leaks
 - emergency response equipment and procedures
- work orders and work schedules
- relevant work permits
- liquefied petroleum gas (LPG) bulk transfer equipment, including:
 - requirements, applications, methods and procedures
 - equipment/tools
 - types, selection, manufacturer specifications/instructions, testing, set up and adjustment
 - compressors and pumps
 - pipes and hoses
- LPG processing or storage facility and equipment maintenance
- relevant workplace policies and procedures
- LPG storage/pressure vessels, including:
 - types, construction, size, valves and labelling
 - testing and inspection procedures
- LPG processing equipment requirements, applications, methods and procedures including:
 - mix/blend properties and specifications
 - equipment/tools
 - types, selection, manufacturer specifications/instructions, testing and set up
 - analytical judgements for appropriate adjustments to plant and equipment
 - variations and irregularities identification
 - gas analysis equipment
 - safety
 - gas alarm and communication equipment
 - ignition prevention/control
 - leak testing requirements, types, procedures and required equipment/tools

- PPE types, application, checking, maintenance and storage
- scheduled maintenance
- fault identification
- repair and replacement of components and parts
- organisation's policies, quality requirements, specifications, forms and reports for work activities
- hazardous activities, including:
 - lifting, climbing, working in confined spaces or aloft, and use of power tools
- inspecting and testing procedures
- problem-solving techniques
- relevant industry standards, guidelines, codes of practice and regulations
- relevant manufacturer specifications
- relevant SWMS/job safety assessments or risk mitigation processes
- relevant technical drawings, plans, material lists or specifications
- relevant workplace documentation
- traffic management plan

Assessment Conditions

As a minimum, assessors must satisfy applicable regulatory requirements, which include requirements in the Standards for Registered Training Organisations current at the time of assessment.

As a minimum, assessment must satisfy applicable regulatory requirements, which include requirements in the Standards for Registered Training Organisations current at the time of assessment.

Assessment must occur in workplace operational situations where it is appropriate to do so; where this is not appropriate, assessment must occur in simulated workplace operational situations that replicate workplace conditions.

Assessment processes and techniques must be appropriate to the language, literacy and numeracy requirements of the work being performed and the needs of the candidate.

Resources for assessment must include access to:

- a range of relevant exercises, case studies and/or 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>

UEGNSG620 Organise the repair of faults in LPG processing or storage facilities and equipment

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 organise the repair of faults that occur during the processing and/or storing of liquefied petroleum gas (LPG) in accordance with relevant legislation, codes of practice, regulations, standards and workplace procedures.

It includes identifying types of faults, liaising with appropriate person/s to authorise and conduct repairs and providing/completing relevant documentation.

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

Pre-requisite Unit

Not applicable

Competency Field

Gaseous Fuels Vessels

Unit Sector

Gas Industry

Elements and Performance Criteria

ELEMENTS

Elements describe the essential outcomes.

1 Plan to organise repairs in LPG processing/storage facilities and equipment

PERFORMANCE CRITERIA

Performance criteria describe the performance needed to demonstrate achievement of the element.

1.1 Appropriate person/s are consulted to ensure the work is coordinated effectively with others involved

1.2 Job requirements and workplace procedures for the

work are obtained for all work sites and communicated to relevant person/s

- 1.3 Work health and safety (WHS)/occupational health and safety (OHS), environmental and sustainable energy policies and procedures for repairing faults in LPG processing/storage facilities and equipment are obtained and communicated to relevant person/s
- 1.4 Work is prioritised and sequenced for completion within acceptable timeframes following consultation with others in accordance with workplace procedures
- 1.5 Hazards and WHS/OHS risk are identified and prioritised and control measures implemented and monitored
- 1.6 Relevant work permits are obtained to access, isolate/de-energise systems and perform work in accordance with regulatory requirements and workplace procedures
- 1.7 Appropriately licensed person/s, equipment, tools and personal protective equipment (PPE) required for the job are identified, scheduled, obtained and checked for correct operation in accordance with workplace procedures
- 1.8 Communication issues with authorised persons, authorities, clients and land owners are resolved and work coordinated in accordance with work schedule and workplace procedures
- 1.9 Site is prepared to minimise risk and damage to property, commerce and individuals in accordance with work schedule and workplace procedures
- 1.10 Person/s participating in the work, including plant operators and contractors, are briefed and responsibilities coordinated in accordance with workplace procedures

2 Organise and monitor repair of faults in LPG processing/storage facilities and equipment

- 2.1 WHS/OHS risk control measures and policies and procedures are followed in accordance with workplace procedures
- 2.2 Hazardous activities are performed safely and currency maintained as required in accordance with regulatory

requirements and workplace procedures

- 2.3 Fault repairs are organised to ensure completion in agreed timeframes and to quality/safety/environmental standards in accordance with job requirements and workplace procedures
- 2.4 Repair work and replacement of faulty work equipment is conducted in accordance with permit to work requirements and monitored to ensure activities are carried out with minimal impact on existing operations and environment
- 2.5 Hazard warnings and safety signs are recognised, hazards and WHS/OHS risks assessed and reported to authorised person/s for directions in accordance with workplace procedures
- 2.6 Unplanned events encountered when organising fault repairs are identified and actioned in accordance with workplace procedures
- 2.7 Quality and safety checks of the repairs are undertaken in accordance with workplace procedures

3 Complete work and relevant documentation

- 3.1 Systems are monitored or operated to ensure they are operating safely and effectively in accordance with workplace procedures
- 3.2 Accidents and injuries are reported in accordance with workplace procedures
- 3.3 Work site is rehabilitated, 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 work permit/s are signed off and equipment/facility is returned to service in accordance with job requirements and workplace procedures
- 3.6 Repaired/installed equipment is brought back on line in accordance with workplace procedures
- 3.7 Work completion records, reports and as installed/modified drawings and documentation are completed, processed and appropriate person/s notified

in accordance with workplace procedures

Foundation Skills

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

Range of Conditions

Range is restricted to essential operating conditions and any other variables essential to the work environment.

Non-essential conditions may be found in the UEG Gas Industry Training Package Companion Volume Implementation Guide.

operation of equipment must include at least seven (7) of the following:

- gas detectors
- purging gas
- hand tools
- LPG hoses
- flare
- valves
- compressors
- vessels
- pumps
- road tankers

control and instrumentation equipment faults must include at least seven (7) of the following:

- gas leak
- electrical problems
- over filled vessel
- compressor failure
- pump failure
- out-of-current inspection status
- gauge failure
- hose rupture/leaks
- instruments out of calibration
- non-flow of LPG
- cylinder scales out of calibration
- meter out of calibration

Unit Mapping Information

This unit replaces and is equivalent to UEGNSG620A Organise the repair of faults in LPG processing or storage facilities and equipment.

Links

Companion Volume Implementation Guides are found in VETNet -
<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=6a6c032e-ffcb-4f3d-8063-415efbd261e8>

Assessment Requirements for UEGNSG620 Organise the repair of faults in LPG processing or storage facilities and equipment

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 relevant work health and safety (WHS)/occupational health and safety (OHS) requirements, including:
 - working safely with hazardous materials and equipment
 - hazard identification and reporting
 - implementing risk control measures
 - selecting and using correct personal protective equipment (PPE)
- applying planning skills
- applying relevant industry standards, guidelines, codes of practice, legislation and regulations
- applying sustainable energy and environmental principles and practices
- communicating effectively in the workplace
- completing work and relevant documentation, including:
 - item maintenance records
 - obtaining and complying with relevant work permits
 - job card documentation to inform relevant authorities, company person/s or manufacturer
- conducting briefings
- conducting quality and safety checks
- confirming currency
- dealing with unplanned events/situations in accordance with workplace procedures in a manner that minimises risk to personnel and equipment
- following workplace procedures
- monitoring and activating systems
- organising repair and replacement of components and parts
- planning to organise repairs in liquified petroleum gas (LPG) processing/storage facilities and equipment
- WHS/OHS, environmental and associated documentation.

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:

- hazardous activities, including:
 - lifting, climbing, working in confined spaces or aloft, and use of power tools
- applying relevant industry standards, guidelines, codes of practice, legislation and regulations
- relevant WHS/ OHS requirements, including:
 - emergency response equipment and procedures
 - hazard identification and reporting
 - risk control measures
 - safety signs, including workplace hazards and warnings
 - spill kits and PPE
 - hazardous materials and equipment
- LPG processing/storage facilities, including:
 - requirements, specifications and plant operation
 - variations and irregularities identification
 - safety
 - gas alarm and communication equipment
 - ignition prevention/control
 - leak testing requirements
- types of accidents and emergencies
- scheduled maintenance requirements
- fault identification
- repair and replacement of components and parts
- reporting requirements
- manual and emergency shutdown procedures
- quality requirements and specifications
- forms and reports for work activities
- relevant manufacturer specifications
- relevant safe work method statements (SWMS)/job safety assessments or risk mitigation processes
- relevant WHS/OHS legislated requirements
- relevant workplace documentation
- relevant workplace policies and procedures
- fault-finding and troubleshooting techniques
- problem-solving techniques
- repair and maintenance requirements.

Assessment Conditions

As a minimum, assessors must satisfy applicable regulatory requirements, which include requirements in the Standards for Registered Training Organisations current at the time of assessment.

As a minimum, assessment must satisfy applicable regulatory requirements, which include requirements in the Standards for Registered Training Organisations current at the time of assessment.

Assessment 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>

UEGNSG621 Control bulk storage of LPG

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 control the bulk storage of liquefied petroleum gas (LPG) in terminals and depots in accordance with relevant legislation, codes of practice, regulations and workplace procedures.

It includes correctly and safely transferring LPG; monitoring and storing LPG bulk storage terminals/depots/facilities using appropriate materials, tools and equipment; responding in the event of an emergency and completing relevant documentation.

This unit applies to LPG bulk storage terminals and depots.

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

Elements describe the essential outcomes.

1 Plan for the bulk storage of LPG

PERFORMANCE CRITERIA

Performance criteria describe the performance needed to demonstrate achievement of the element.

- 1.1** Appropriate person/s are consulted to ensure work is coordinated effectively with others on the work site and the availability of necessary equipment is determined

- 1.2** Equipment is checked for correct operation and safety in accordance with manufacturer instructions and workplace procedures
 - 1.3** Work health and safety (WHS)/occupational health and safety (OHS), environmental and sustainable energy policies and procedures for the control and storage of LPG at a terminal are obtained and communicated to relevant person/s
 - 1.4** Work is prioritised and sequenced for completion within acceptable timeframes following consultation with relevant person/s in accordance with workplace procedures
 - 1.5** Hazards and WHS/OHS risks are identified and prioritised and control measures implemented and monitored
 - 1.6** Relevant work permit/s are obtained to access, isolate/de-energise systems and perform the work in accordance with regulatory requirements and workplace procedures
 - 1.7** Person/s, equipment, tools, personal protective equipment (PPE) and appropriate valves are identified, scheduled, obtained and checked for correct operation and safety in accordance with workplace procedures
 - 1.8** Person/s at work site are confirmed to be current in related work procedures in accordance with job requirements
 - 1.9** Site is prepared to minimise risk and damage to property, commerce and individuals in accordance with work schedule and workplace procedures
 - 1.10** Person/s participating in the work, including plant operators and contractors, are briefed and responsibilities confirmed in accordance with workplace procedures
- 2 Control storage of LPG**
- 2.1** LPG is stored safely and securely in accordance with LPG control specifications, environmental standards workplace procedures and legislative requirements
 - 2.2** Hazardous activities are performed safely and currency maintained as required in accordance with regulatory requirements and workplace procedures

- 2.3 Bulk LPG storage at the terminal/depot is controlled and monitored in accordance with work schedule and workplace procedures
 - 2.4 Emergency response procedures, potential hazards, risks and control measures are monitored and preventative action taken/referred to appropriate authorities, where required, in accordance with regulatory requirements and workplace procedures
 - 2.5 Abnormalities and unplanned events encountered while controlling the storage of LPG in a terminal/depot are identified and actioned in accordance with responsibility and workplace procedures
 - 2.6 Fault-finding and troubleshooting techniques are applied to identify any repairs or maintenance to operational systems and equipment and documented in accordance with workplace procedures
 - 2.7 Quality and safety checks of the terminal/depot storage facilities are undertaken in accordance with workplace procedures
- 3 Complete work and relevant documentation**
- 3.1 Storage of LPG is checked against work schedule for conformance with requirements and anomalies reported in accordance with workplace procedures
 - 3.2 Accidents and injuries are reported in accordance with requirements and workplace procedures
 - 3.3 Terminal/depot 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 work permit/s are signed off and equipment is returned to service in accordance with requirements and workplace procedures
 - 3.6 Work completion documentation is completed and provided to the appropriate person/s in accordance with workplace procedures

Foundation Skills

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

Range of Conditions

Range is restricted to essential operating conditions and any other variables essential to the work environment.

Non-essential conditions may be found in the UEG Gas Industry Training Package Companion Volume Implementation Guide.

equipment operation must include at least three (3) of the following:

- pumps and compressors
- valves
- vessels
- control and monitoring equipment
- mixing equipment
- sampling equipment

monitoring of storage facilities must include at least five (5) of the following:

- pressure
- temperature
- levels
- corrosion
- asset integrity
- gas leaks
- stock levels
- security
- fire protection systems
- shutdown systems

Unit Mapping Information

This unit replaces and is equivalent to UEGNSG621A Control bulk storage of LPG.

Links

Companion Volume Implementation Guides are found in VETNet -
<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=6a6c032e-ffcb-4f3d-8063-415efbd261e8>

Assessment Requirements for UEGNSG621 Control bulk storage of LPG

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 relevant industry standards, guidelines, codes of practice, legislation and regulations
- applying relevant work health and safety (WHS)/occupational health and safety (OHS) requirements, including:
 - working safely with hazardous materials and equipment
 - hazard identification and reporting
 - implementing risk control measures
 - selecting and using correct personal protective equipment (PPE)
- communicating with relevant person/s
- completing work and relevant documentation
- controlling storage of liquified petroleum gas (LPG)
- dealing with unplanned events/situations in accordance with workplace procedures in a manner that minimises risk to personnel and equipment
- following procedures for emergency response, including:
 - gas leaks and fire
 - equipment failure
 - hazards and incidents
- following workplace procedures
- identifying and reporting anomalies
- identifying required repairs and maintenance
- obtaining and complying with relevant work permits
- planning for the storage of LPG.

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:

- accident and emergency procedures and equipment
- fault-finding and troubleshooting techniques
- hazardous activities, including:
 - lifting, climbing, working in confined spaces and aloft, and use of power tools
- LPG storage/pressure vessels
- LPG storage facility operations, including:
 - manufacturer specifications and standard adjustments to LPG equipment
 - identifying variations and irregularities
 - making analytical judgments for appropriate adjustments to plant and equipment
 - monitoring, and reporting requirements
 - safety
- oral and written communication techniques
- problem-solving techniques
- relevant industry standards, guidelines, codes of practice and regulations
- relevant manufacturer specifications
- relevant WHS/OHS legislated requirements, including:
 - hazards, risk assessment and control measures
 - environmental and sustainable energy principles and practices
 - hazard warnings and safety signs
 - hazardous materials
 - use of spill kits and PPE
 - safe manual handling techniques
 - responding to emergency and accident situations
 - emergency response equipment and procedures
 - first aid requirements for gas industry supervisors
- relevant work permits
- relevant work permits
- relevant workplace policies and procedures
- relevant workplace reporting requirements and documentation
- repair and maintenance requirements.

Assessment Conditions

As a minimum, assessors must satisfy applicable regulatory requirements, which include requirements in the Standards for Registered Training Organisations current at the time of assessment.

As a minimum, assessment must satisfy applicable regulatory requirements, which include requirements in the Standards for Registered Training Organisations current at the time of assessment.

Assessment 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>

UEGNSG622 Assess the operational capability of gas safety equipment on a delivery vehicle

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 assess the gas and safety equipment on a delivery vehicle for the distribution of gaseous fuel in accordance with relevant legislation, codes of practice, regulations and workplace procedures.

It includes assessing gas and safety equipment on delivery vehicles by identifying faults, using workplace operating procedures, liaising with appropriate persons, and conducting inspections and tests.

This unit applies to work sites where the bulk distribution of liquefied petroleum gas (LPG) occurs using delivery vehicles, and subject to work health and safety (WHS)/occupational health and safety (OHS) and duty of care requirements being met for the workplace.

This unit is intended as an entry level unit, for new entrants in the gas industry. It is suitable for employment-based programs.

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 Performance criteria describe the performance needed to

outcomes.

demonstrate achievement of the element.

1 Prepare to assess gas safety equipment on delivery vehicles

- 1.1** Work instructions are obtained and confirmed in accordance with workplace procedures
- 1.2** Relevant assessment requirements and workplace procedures for the safety assessment are discussed with persons to determine and confirm the work schedule
- 1.3** WHS/OHS, environmental and sustainable energy workplace policies and procedures for the safety assessment are obtained received and confirmed
- 1.4** Suggestions to assist with assessing the operational capability of gas safety equipment on delivery vehicles are made to persons involved in the work
- 1.5** Delivery vehicle hazards are identified, WHS/OHS risks assessed and control measures are prioritised, implemented and monitored in accordance with workplace procedures
- 1.6** Resources, equipment and tools are visually inspected and personal protective equipment (PPE) required for the job are obtained and in working order in accordance with workplace procedures
- 1.7** Components of the delivery vehicle and associated safety equipment are checked and the relevant responsibilities associated with related work safety procedures at the work site are identified and confirmed in accordance with workplace requirements and procedures

2 Assess gas safety equipment on delivery vehicle

- 2.1** WHS/OHS policies and workplace procedures and safe work practices are followed to eliminate or minimise incidents and hazards
- 2.2** Lifting, climbing, working aloft and use of tools, techniques and safe work practices are safely followed in accordance with given instructions and workplace requirements to eliminate the prospects of incidents
- 2.3** Assessing operational capability of gas safety equipment on delivery vehicles is undertaken in the agreed timeframe and to industry quality, safety and environmental standards in accordance with workplace requirements and procedures

- 2.4 Delivery vehicle inspection procedures are carried out in accordance with manufacturer specifications and work schedule for a quality outcome and to minimise risk and damage to property, commerce and individuals in accordance with workplace procedures
 - 2.5 Hazard warnings and safety signs are recognised and hazards are assessed WHS/OHS risks are reported to the authorised persons for directions in accordance with workplace procedures
 - 2.6 Unplanned events are referred to the immediate authorised persons for directions in accordance with workplace procedures
 - 2.7 Problems associated with the assessing of the operational capability of gas safety equipment on delivery vehicles are dealt with using acquired known solutions and skills related to routine procedures to ensure work instructions and workplace procedures
 - 2.8 Records are maintained and ongoing checks of quality of the work are undertaken in accordance with given instructions and workplace procedures
- 3 Complete work and relevant documentation**
- 3.1 Work undertaken is checked against work schedule and anomalies reported to authorised persons in accordance with workplace procedures
 - 3.2 Accidents and incidents are reported in accordance with job requirements and workplace procedures
 - 3.3 Work site is cleaned up and made safe in accordance with given instructions and workplace procedures
 - 3.4 Tools, equipment and any surplus resources and materials are cleaned, checked and returned to storage, as required in accordance with workplace procedures
 - 3.5 Results of inspection and testing are accurately recorded and appropriate persons notified of assessment work completion in accordance with workplace procedures
 - 3.6 Clear reference is made of gas safety equipment item which may affect future operational outcomes and work completion records, report forms and data sheets are accurately completed in accordance with given 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 Volume Implementation Guide.

constants and variables must include the following:

- appropriate persons
- delivery vehicles
- faults
- gas safety equipment
- inspection and testing
- workplace operating procedures
- workplace procedures
- workplace requirements

equipment must include at least six (6) of the following:

- earthing straps
- emergency equipment
- gauges
- hoses and connections including hose protection systems
- hydraulic equipment
- meters
- pipes
- pneumatic/electronic control equipment
- pump and drive shaft
- seals and gaskets
- tanks, valves and fittings

equipment faults must include at least four (4) of the following:

- damaged hoses
- electric control cable damage
- gas/air leaks
- oil leaks
- valves not operating
- water leaks

work practices must include the following:

- apply basic planning skills
- apply safe manual handling techniques
- communicate effectively in the workplace
- identify and report faults

- maintain a safe and clean workplace
- operate equipment within its limitations
- respond to emergency situations
- work safely with hazardous materials and equipment
- work utilising relevant procedures

Unit Mapping Information

This unit replaces and is equivalent to UEGNSG622A Assess the operational capability of gas safety equipment on a delivery vehicle.

Links

Companion Volume Implementation Guides are found in VETNet -
<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=6a6c032e-ffcb-4f3d-8063-415efbd261e8>

Assessment Requirements for UEGNSG622 Assess the operational capability of gas safety equipment on a delivery vehicle

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 relevant work health and safety (WHS)/occupational health and safety (OHS) requirements, including using of risk control measures
- applying sustainable energy principles and practices
- assessing and identifying faults of gas and safety equipment on delivery vehicles
- completing work and relevant documentation
- dealing effectively with unplanned events in accordance with workplace procedures in a manner that minimises risk to personnel and equipment
- preparing to assess gas and safety equipment on delivery vehicles
- reading and applying safety data sheets (SDS)/material safety data sheets (MSDS) requirements
- using safe working practices when assessing the operational capability of gas safety equipment on delivery vehicles in accordance with relevant legislation, codes of practice, regulations 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, performance criteria and range of conditions and include knowledge of:

- emergency response management plan, including:
 - accidents and emergency types
 - emergency response equipment and procedures
 - breathing apparatus
 - gas detectors/oxygen monitoring devices
 - compliance requirements
 - emergency shutdown, fire protection and security requirements
- equipment/tools, including:
 - types, selection, manufacturer specifications/instructions, testing, set up and adjustment

- compressors, pumps
- pipes and hoses
- gas alarm and communication equipment
- gaseous fuel bulk tankers, including:
 - requirements
 - types, construction, size, valves, labelling and SDS/MSDS
 - testing and inspection workplace procedures
- ignition prevention/control measures
- leak testing requirements, types, procedures and required equipment/tools
- manual handling techniques
- monitoring, testing, inspection and reporting workplace procedures and requirements
- operational capability of delivery vehicles
- personal protection equipment (PPE) types, application, checking, maintenance and storage
- relevant legislation, industry standards, codes of practice, regulations and workplace procedures
- relevant safe work method statements (SWMS)/job safety assessments or risk mitigation processes includes work permits and use of spill kits
- relevant safety equipment manufacturer specifications and standard adjustments to equipment
- relevant WHS/OHS legislated requirements
- relevant workplace documentation, forms and reports
- relevant workplace policies, quality requirements, specifications and procedures for work activities
- safe working practices for assessing the operational capability of gas safety equipment on delivery vehicles
- tanker gaseous fuel transfer systems, including requirements, applications, methods and 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 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
- resources used should reflect current industry practices in assessing operational capability of gas safety equipment on a delivery vehicle
- 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>

UEGNSG706 Test new residential and small commercial gas installations

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 test new residential and small commercial gas installations and associated components by a designated gas industry person in accordance with workplace procedures and relevant legislation, industry standards, regulations and codes of practice.

It includes using tools and testing equipment to pressure test the customer piping system and associated gas meter connection filters, regulators and components. It also includes completing required records and appropriate documentation.

The application of the skills and knowledge described in this unit may require a license or permit to practice in the workplace.

Other conditions may apply under state and territory legislative and regulatory licencing requirements which must be confirmed prior to commencing this unit.

Pre-requisite Unit

Not applicable.

Competency Field

Support Services

Unit Sector

Gas Industry

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 test new gas installation	1.1 Work instructions are obtained and interpreted to confirm the work schedule 1.2 Job requirements and workplace procedures for the work are discussed with relevant person/s to confirm the work schedule 1.3 Work health and safety (WHS)/occupational health and safety (OHS), environmental and sustainable energy policies and procedures are obtained and applied 1.4 Hazards are identified, WHS/OHS risks are assessed and control measures prioritised, implemented and monitored in accordance with workplace procedures 1.5 Responsibility under the relevant work permit/authorisation is obtained and confirmed with relevant person/s in accordance with job requirements and workplace procedures 1.6 Equipment, tools, resources, materials and personal protective equipment (PPE) needed for conformance testing are identified, obtained and checked for correct operation and safety in accordance with workplace procedures 1.7 Responsibilities for work safety and emergency procedures at the work site are confirmed with relevant person/s in accordance with requirements and workplace procedures 1.8 Appropriate person/s are consulted to ensure appliance relight is coordinated effectively with others involved 1.9 Client/customer issues are referred to appropriate person/s in accordance with industry standards and workplace procedures 1.10 Site preparation, safety plan and work schedule are confirmed with relevant person/s in accordance with workplace procedures
2 Test new gas installation	2.1 WHS/OHS risk control measures, schedule of work and workplace procedures for carrying out the work are followed 2.2 Materials, tools, equipment and pressure testing devices are selected and used correctly and safely in accordance with manufacturer instructions and workplace

procedures

- 2.3 Conformance test is undertaken using correct tools and equipment in accordance with workplace procedures and industry standards
- 2.4 Conformance test of new gas installation is undertaken using appropriate pressure testing, protection and stray current testing equipment in accordance with company procedures and regulatory requirements
- 2.5 Customer piping system and associated components, including appliances, are tested for conformance to industry standards and regulatory requirements
- 2.6 Results of conformance test are analysed and non-compliant installations are disconnected in accordance with workplace procedures, industry standards and regulatory requirements
- 2.7 Work is carried out to the required industry standards without waste of materials or damage to apparatus, equipment, and the surrounding environment or services using sustainable energy principles
- 2.8 Hazard warnings and safety signs are recognised and hazards and WHS/OHS risks assessed and reported to the authorised person/s for directions in accordance with workplace procedures
- 2.9 Unplanned events and non-routine problems are referred to authorised person/s for directions in accordance with workplace procedures
- 2.10 Quality and safety checks of the work are undertaken in accordance with job instructions and workplace procedures

3 Complete work and relevant documentation

- 3.1 WHS/OHS risk control measures and workplace procedures for completing the work are followed
- 3.2 Final check of work, including visual observation, is performed to ensure work complies with job and regulatory requirements
- 3.3 Appropriate persons are notified of work completion and non-conformances in accordance with workplace procedures

- 3.4** Equipment, tools and any surplus resources and materials are cleaned, checked and securely stored or disposed of in accordance with workplace procedures
- 3.5** Work area is tidied and made safe in accordance with workplace procedures
- 3.6** Work completion records and documentation are updated 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 Volume Implementation Guide.

Unit Mapping Information

This unit replaces and is equivalent to UEGNSG706A Test New Residential and Small Commercial Gas Installations.

Links

Companion Volume Implementation Guides are found in VETNet -
<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=6a6c032e-ffcb-4f3d-8063-415efbd261e8>

Assessment Requirements for UEGNSG706 Test new residential and small commercial gas installations

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 and performance criteria on at least two separate occasions and include:

- advising stakeholders of potentially dangerous or non-conforming installations
- analysing results of tests
- 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
 - selecting and using relevant personal protective equipment (PPE)
- communicating effectively with relevant personnel and customers
- completing records and documentation
- completing the work and relevant documentation
- conducting conformance tests
- dealing with unplanned events/situations in accordance with workplace procedures in a manner that minimises risk to personnel and equipment
- disconnecting non-compliant installations
- following work schedules and job requirements
- following workplace policies and procedures
- maintaining a clean and safe work site
- performing quality, safety and final checks
- preparing to test new gas installation
- testing new gas installation
- using pressure testing tools and equipment
- using tools and equipment to test residential and small commercial gas installation.

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:

- appliance installation requirements to relevant standards and regulatory requirements
- client issues
- communication skills to liaise with internal and external person/s
- conformance tests
- documentation and reporting requirements
- piping systems and components
- pressure testing of gas installation to industry standards
- problem-solving techniques
- procedures for testing residential and small commercial new gas installations to relevant standards and regulatory requirements
- protection testing and stray current testing
- quality, safety and final checks
- relevant manufacturer specifications
- relevant industry standards, legislation, guidelines, codes of practice and regulations
- relevant WHS/OHS policies and procedures, includes:
 - hazard identification
 - risk assessment and control
 - relevant PPE
 - environmental and sustainable energy principles and practices
 - safety requirements for entering domestic and commercial customer sites
- relevant materials, tools, equipment and testing devices
- relevant permits required
- relevant safe work method statements (SWMS)/job safety assessments or risk mitigation processes
- relevant WHS/OHS legislated requirements
- relevant workplace documentation
- relevant workplace policies and procedures
- small commercial new gas installations and components.

Assessment Conditions

As a minimum, assessors must satisfy applicable regulatory requirements, which include requirements in the Standards for Registered Training Organisations current at the time of assessment.

As a minimum, assessment must satisfy applicable regulatory requirements, which include requirements in the Standards for Registered Training Organisations current at the time of assessment.

Assessment must occur in workplace operational situations where it is appropriate to do so;

where this is not appropriate, assessment must occur in simulated workplace operational situations that replicate workplace conditions.

Assessment processes and techniques must be appropriate to the language, literacy and numeracy requirements of the work being performed and the needs of the candidate.

Resources for assessment must include access to:

- a range of relevant exercises, case studies and/or 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>

UEGNSG708 Pressure test residential and small commercial gas installations

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 pressure test residential and small commercial gas installations and associated components by a designated gas industry person in accordance with industry standards, regulations and workplace procedures.

It includes using tools and testing equipment to pressure test the customer piping system, associated fittings and components, and completing required records and relevant documentation.

The application of the skills and knowledge described in this unit may require a license or permit to practice in the workplace.

Other conditions may apply under state and territory legislative and regulatory licencing requirements which must be confirmed prior to commencing this unit.

Pre-requisite Unit

Not applicable.

Competency Field

Support Services

Unit Sector

Gas Industry

Elements and Performance Criteria

ELEMENTS

Elements describe the essential outcomes.

1 Prepare to pressure test

PERFORMANCE CRITERIA

Performance criteria describe the performance needed to demonstrate achievement of the element.

- 1.1** Work instructions are obtained and confirmed with relevant person/s in accordance with workplace

gas installation	procedures
	1.2 Job requirements and workplace procedures for the work are discussed with relevant person/s to confirm the work schedule
	1.3 Work health and safety (WHS)/occupational health and safety (OHS), environmental and sustainable energy measures and workplace policies and procedures for the work are obtained and applied
	1.4 Equipment, tools and personal protective equipment (PPE) required for pressure testing are identified, obtained and checked for correct operation and safety in accordance with workplace procedures and manufacturer instructions
	1.5 Resources and materials required to carry out the pressure test are obtained in accordance with workplace procedures
	1.6 Client issues are referred to relevant person/s in accordance with industry standards and workplace procedures
	1.7 Work site is prepared, safety plan and work schedule confirmed with relevant person/s in accordance with workplace procedures
2 Carry out pressure test of gas installation	2.1 WHS/OHS policies, procedures and safe work practices for the pressure test are followed to eliminate or minimise incidents and hazards
	2.2 Schedule of work is followed to ensure work is completed in agreed timeframe and to quality, safety and industry standards with a minimum of waste
	2.3 Conformance test is undertaken using correct tools and equipment in accordance with workplace procedures and industry standards
	2.4 Pressure test of the gas installation is undertaken using relevant pressure testing equipment in accordance with workplace procedures and regulatory requirements
	2.5 Customer piping system and associated components, including appliances, are pressure tested for conformance to industry standards and regulatory requirements

	2.6	Results of pressure test are analysed and non-compliant installations are disconnected in accordance with workplace procedures, industry standards and regulatory requirements
	2.7	Quality and safety checks of the work are undertaken in accordance with job instructions, industry standards and workplace procedures
3 Complete pressure test and relevant documentation	3.1	WHS/OHS risk control measures for work completion are followed
	3.2	Final checks, including visual observation are undertaken to ensure quality of the work complies with industry standards, regulatory requirements and workplace procedures
	3.3	Relevant person/s are notified of work completion and non-conformances in accordance with workplace procedures
	3.4	Equipment, tools and any surplus materials or resources are cleaned, checked and returned to storage or disposed of in accordance with workplace procedures
	3.5	Work area is tidied and made safe in accordance with job instructions and workplace procedures and sustainable energy practices are followed
	3.6	Records and documentation are updated in accordance with job instructions and workplace procedures as required by the regulator

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 Volume Implementation Guide.

Unit Mapping Information

This unit replaces and is equivalent to UEGNSG708A Pressure Test Residential and Small Commercial Gas Installations.

Links

Companion Volume Implementation Guides are found in VETNet -
<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=6a6c032e-ffcb-4f3d-8063-415efbd261e8>

Assessment Requirements for UEGNSG708 Pressure test residential and small commercial gas installations

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 and performance criteria on at least two separate occasions and include:

- advising stakeholders of potentially dangerous or non-conforming installations
- analysing results of tests
- applying environmental and sustainable energy principles and practices
- applying problem-solving techniques
- applying relevant work health and safety (WHS)/occupational health and safety (OHS) requirements, including:
 - hazard identification and reporting
 - implementing risk control measures
 - selecting and using relevant personal protective equipment (PPE)
- applying relevant industry standards, guidelines, codes of practice and regulations
- carrying out pressure test of gas installation
- communicating effectively with relevant personnel and customers
- completing pressure test
- completing records and documentation
- conducting conformance tests
- dealing with unplanned events/situations in accordance with workplace procedures in a manner that minimises risk to personnel and equipment
- disconnecting non-compliant installations
- following manufacturer instructions
- following work schedules and job requirements
- following workplace policies and procedures
- maintaining a clean and safe work site
- minimising waste
- obtaining relevant resources and materials to conduct the work
- performing quality, safety and final checks
- preparing to pressure test gas installation
- using pressure testing tools and equipment
- using tools and equipment to test residential and small commercial gas installation

- working within agreed timeframes or conditions.

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:

- client issues
- communication skills to liaise with internal and external person/s
- conformance tests
- documentation and reporting requirements
- environmental and sustainable energy principles and practices
- piping systems and components
- pressure testing of gas installation to industry standards
- problem-solving techniques
- quality, safety and final checks
- relevant manufacturer instructions
- relevant materials, tools, equipment and devices
- relevant permits required
- relevant industry standards, legislations, guidelines, codes of practice and regulations
- relevant WHS/OHS policies and procedures, including:
 - hazard identification
 - risk assessment and control
 - relevant PPE
 - safety requirements for entering domestic and commercial customer sites
- relevant safe work method statements (SWMS)/job safety assessments or risk mitigation processes
- relevant WHS/OHS legislated requirements
- relevant workplace documentation
- relevant workplace policies and procedures
- site preparation, work schedules, safety plans and job requirements
- small commercial gas installations and components
- techniques to minimise waste.

Assessment Conditions

As a minimum, assessors must satisfy applicable regulatory requirements, which include requirements in the Standards for Registered Training Organisations current at the time of assessment.

As a minimum, assessment must satisfy applicable regulatory requirements, which include requirements in the Standards for Registered Training Organisations current at the time of assessment.

Assessment must occur in workplace operational situations where it is appropriate to do so;

where this is not appropriate, assessment must occur in simulated workplace operational situations that replicate workplace conditions.

Assessment processes and techniques must be appropriate to the language, literacy and numeracy requirements of the work being performed and the needs of the candidate.

Resources for assessment must include access to:

- a range of relevant exercises, case studies and/or 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>

UEGNSG713 Investigate billing exceptions-conditions

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 investigate billing exceptions/conditions in a utilities industry environment.

It includes giving consideration to exceptions and conditions, investigating why billing exceptions occur, liaising with customers, and developing and implementing solutions to problems.

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

Pre-requisite Unit

Not applicable.

Competency Field

Support Services

Unit Sector

Gas Industry

Elements and Performance Criteria

ELEMENTS

Elements describe the essential outcomes.

1 Plan to investigate billing exceptions/conditions

PERFORMANCE CRITERIA

Performance criteria describe the performance needed to demonstrate achievement of the element.

1.1	Account exceptions/conditions are identified, researched and confirmed by site inspection, as required, in accordance with workplace procedures
1.2	Job requirements and workplace procedures for the investigation are obtained and communicated to relevant

persons

- 1.3 WHS/OHS, environmental and sustainable energy policies and procedures related to the investigation are obtained, applied and communicated to relevant person/s
 - 1.4 Work is prioritised and sequenced for completion within acceptable timeframes following consultation with relevant person/s in accordance with workplace procedures
 - 1.5 Hazards are identified, work health and safety (WHS)/occupational health and safety (OHS) risks are assessed and control measures prioritised, implemented and monitored in accordance with workplace procedures
 - 1.6 Relevant work permits/authorisations are obtained to access and perform the work in accordance with workplace procedures, regulatory and job requirements
 - 1.7 Licensed person/s, equipment, tools and personal protective equipment (PPE) required for the investigation are identified, scheduled, obtained and checked for correct operation and safety in accordance with workplace procedures
 - 1.8 Communication with authorised person/s, authorities, clients and land owners is undertaken and work coordinated in accordance with work schedule and workplace procedures
 - 1.9 Work site preparation, safety plan and work schedule are confirmed with relevant stakeholders in accordance with workplace procedures
 - 1.10 Person/s participating in the work are briefed and responsibilities confirmed in accordance with job requirements and workplace procedures
- 2 Carry out investigation of billing exceptions/conditions**
- 2.1 WHS/OHS risk control measures, schedule of work and workplace procedures for the work are followed
 - 2.2 Relevant materials, tools, equipment and devices are selected and used correctly and safely in accordance with manufacturer instructions and workplace procedures

- 2.3 Investigation is conducted and information gathered is analysed and evaluated for relevance and validity to the billing exception/condition
 - 2.4 Dealings with customers are conducted in accordance with workplace procedures and special needs of customers are identified and considered in targeting client service
 - 2.5 Work is carried out to ensure completion in agreed timeframe, to industry standards, without waste of materials or damage to apparatus, equipment, and the surrounding environment or services using sustainable energy principles
 - 2.6 Billing investigation work is conducted in accordance with the work schedule and workplace procedures
 - 2.7 Hazard warnings and safety signs are recognised and hazards and WHS/OHS risks assessed and reported to authorised person/s for directions in accordance with workplace procedures
 - 2.8 Unplanned events encountered when carrying out the investigation are identified and actioned in accordance with workplace procedures
 - 2.9 Fault finding and troubleshooting techniques are applied to problems in accordance with job requirements and workplace procedures
 - 2.10 Quality and safety checks of the investigation work are undertaken in accordance with job requirements and workplace procedures
- 3 Complete the investigation of billing exceptions/conditions**
- 3.1 WHS/OHS risk control measures for work completion are followed
 - 3.2 Solutions to the billing exception/condition are developed based on information gathered through the investigation, and options and proposed solutions are communicated to customers/relevant stakeholders and implemented in accordance with workplace procedures
 - 3.3 Accidents and injuries are actioned and reported to relevant person/s in accordance with requirements and workplace procedures

- 3.4 Solutions are implemented, actions documented, the transaction processed and customer advised in accordance with workplace procedures
- 3.5 Work completion records, reports and documentation are completed, processed and relevant person/s notified in accordance with workplace procedures

Foundation Skills

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

Range of Conditions

Range is restricted to essential operating conditions and any other variables essential to the work environment.

Non-essential conditions may be found in the UEG Gas Industry Training Package Companion Volume Implementation Guide.

Unit Mapping Information

This unit replaces and is equivalent to UEGNSG713A Investigate billing exceptions-conditions.

Links

Companion Volume Implementation Guides are found in VETNet -
<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=6a6c032e-ffcb-4f3d-8063-415efbd261e8>

Assessment Requirements for UEGNSG713 Investigate billing exceptions-conditions

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 and performance criteria on at least two separate occasions and include:

- applying negotiating and problem-solving techniques
- applying relevant work health and safety (WHS)/occupational health and safety (OHS) requirements, including:
 - selecting and using correct materials, equipment, tools, personal protection equipment (PPE) and devices
- applying sustainable energy and environmental principles and practices
- carrying out investigation of billing exceptions/conditions
- communicating with customers and relevant stakeholders
- completing relevant records, reports and documentation
- completing the investigation of billing exceptions/conditions
- dealing with unplanned events/situations in accordance with workplace procedures in a manner that minimises risk to personnel and equipment
- following workplace procedures
- identifying account exceptions/conditions
- identifying special needs of customers
- investigating billing exceptions and field calls
- obtaining relevant work permits
- planning to investigate billing exceptions/conditions
- providing and implementing solutions to billing exceptions/conditions
- providing customer service.

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:

- administrative working environments in the utilities industry
- billing investigations
- billing/account exceptions/conditions

- communication, negotiation, dispute resolution and problem-solving techniques
- environmental and sustainable energy principles and practices
- fault finding and troubleshooting techniques
- observation and analytical skills
- quality and safety checks
- relevant industry standards, guidelines, codes of practice and regulations
- relevant stakeholders and authorities
- relevant technology, equipment, tools and devices
- relevant WHS/OHS legislated requirements
- relevant work permits/authorisations
- relevant workplace documentation, records and reports
- relevant workplace policies and procedures
- solutions to the billing exception/conditions.

Assessment Conditions

As a minimum, assessors must satisfy applicable regulatory requirements, which include requirements in the Standards for Registered Training Organisations current at the time of assessment.

As a minimum, assessment must satisfy applicable regulatory requirements, which include requirements in the Standards for Registered Training Organisations current at the time of assessment.

Assessment must occur in workplace operational situations where it is appropriate to do so; where this is not appropriate, assessment must occur in simulated workplace operational situations that replicate workplace conditions.

Assessment processes and techniques must be appropriate to the language, literacy and numeracy requirements of the work being performed and the needs of the candidate.

Resources for assessment must include access to:

- a range of relevant exercises, case studies and/or other simulations
- relevant and appropriate materials, tools, equipment and personal protective PPE
- 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>

UEGNSG714 Relight Type A gas appliances

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 relight Type A gas appliances following the interruption to gas supply in accordance with manufacturer lighting instructions and workplace procedures.

It includes the use of tools for testing the installation for tightness, relighting safe appliances and completing relevant documentation in accordance with relevant legislation, industry standards and codes of practice.

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

Pre-requisite Unit

Not applicable.

Competency Field

Support Services

Unit Sector

Gas Industry

Elements and Performance Criteria

ELEMENTS

Elements describe the essential outcomes.

1 Prepare to conduct a Type A gas appliance relight

PERFORMANCE CRITERIA

Performance criteria describe the performance needed to demonstrate achievement of the element.

1.1 Instructions for the appliance relight work are obtained and confirmed with relevant person/s and/or stakeholders to determine job requirements and work schedule

- 1.2 Job requirements and workplace procedures are obtained and discussed with relevant person/s to confirm the work schedule
 - 1.3 Hazards are identified, risks are assessed and control measures prioritised, implemented and monitored in accordance with workplace procedures
 - 1.4 Scope of responsibility under the relevant work permit/authorisation is obtained and confirmed with relevant person/s in accordance with job requirements and workplace procedures
 - 1.5 Equipment, tools, resources, materials and personal protective equipment (PPE) required to conduct an appliance relight are identified, obtained and checked for correct operation and safety in accordance with workplace procedures and manufacturer instructions
 - 1.6 Responsibilities for work safety and emergency response procedures at the work site are confirmed with relevant person/s and job requirements
 - 1.7 Relevant person/s and/or stakeholders are consulted to ensure appliance relight is coordinated effectively with others involved
 - 1.8 Client issues are referred to relevant person/s in accordance with industry standards and workplace procedures
 - 1.9 Work site preparation, safety plan and work schedule are confirmed with relevant person/s in accordance with workplace procedures
- 2 **Carry out an installation tightness test and an appliance relight**
 - 2.1 Work health and safety (WHS)/occupational health and safety (OHS) risk control measures, schedule of work and workplace procedures are followed
 - 2.2 Relevant materials, tools, equipment and testing devices are selected and used correctly and safely in accordance with manufacturer instructions and workplace procedures
 - 2.3 Appliance relight is undertaken following manufacturer instructions and workplace procedures
 - 2.4 Work is carried out to the required quality standard, without waste of materials or damage to apparatus,

- equipment, and the surrounding environment or services using sustainable energy principles
- 2.5** Hazard warnings and safety signs are recognised, newly identified hazards and WHS/OHS risks assessed and reported to authorised person/s for directions in accordance with workplace procedures
- 2.6** Unplanned events or conditions are referred to relevant person/s for further instructions in accordance with workplace procedures
- 2.7** Quality checks of the work are undertaken in accordance with job instructions and workplace procedures
- 3 Complete work and relevant documentation**
- 3.1** WHS/OHS risk control measures for work completion are followed
- 3.2** Final checks, including visual observation, are performed to ensure work complies with workplace procedures, industry standards and manufacturer instructions
- 3.3** Relevant person/s are notified of work completion in accordance with workplace procedures
- 3.4** Work area is tidied and made safe in accordance with job instructions and workplace procedures
- 3.5** Work completion records and documentation are completed 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 Volume Implementation Guide.

Unit Mapping Information

This unit replaces and is equivalent to UEGNSG714A Relight Type A gas appliances.

Links

Companion Volume Implementation Guides are found in VETNet -
<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=6a6c032e-ffcb-4f3d-8063-415efbd261e8>

Assessment Requirements for UEGNSG714 Relight Type A gas appliances

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 and performance criteria on at least two separate occasions and include:

- applying relevant legislation, standards, regulations and codes of practice
- applying relevant work health and safety (WHS)/occupational health and safety (OHS) requirements
- applying sustainable energy and environmental principles and practices
- checking tools, equipment, testing devices and personal protective equipment (PPE) for correct operation and safety
- cleaning, checking and storing tools, equipment and surplus resources/materials
- communicating with relevant person/s
- completing records and documentation accurately
- completing work and relevant workplace documentation
- conducting Type A appliance relights
- dealing with unplanned events/situations in accordance with workplace procedures in a manner that minimises risk to personnel and equipment
- following manufacturer instructions
- following work schedules
- implementing control measures for identified hazards
- maintaining a clean work site
- minimising materials waste
- obtaining and interpreting job requirements, safety plan and work schedule
- performing quality, final and safety checks
- reading and recording gas meter details
- recognising hazard warnings and safety signs
- reporting hazards and WHS/OHS risks and incidents to relevant person/s
- testing the installation for tightness.

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:

- appliance relights
- client issues
- effective communication techniques
- emergency response procedures
- environmental and sustainable energy principles and practices
- hazards, risk assessments and control measures
- problem-solving techniques
- quality, final and safety checks
- relevant legislation, standards, codes and regulations
- relevant manufacturer instructions
- relevant materials, tools, equipment, testing devices and PPE
- relevant permits and authorisations required
- relevant WHS/OHS legislated requirements
- relevant workplace documentation and records
- relevant workplace policies and procedures
- site preparation, work schedules, safety plans and job requirements
- techniques to minimise waste
- tightness testing
- tightness testing tools.

Assessment Conditions

As a minimum, assessors must satisfy applicable regulatory requirements, which include requirements in the Standards for Registered Training Organisations current at the time of assessment.

As a minimum, assessment must satisfy applicable regulatory requirements, which include requirements in the Standards for Registered Training Organisations current at the time of assessment.

Assessment must occur in workplace operational situations where it is appropriate to do so; where this is not appropriate, assessment must occur in simulated workplace operational situations that replicate workplace conditions.

Assessment processes and techniques must be appropriate to the language, literacy and numeracy requirements of the work being performed and the needs of the candidate.

Resources for assessment must include access to:

- hand tools to disconnect and reconnect meters, including footprints, spanners, neon tester, bonding leads, soap tester, safety matches
- 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>

UEGNSG804 Maintain single stage and single run gas flow and pressure control and measuring devices

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 maintain single stage and single run gas distribution flow, pressure regulating/control devices and measuring devices, and complete work and relevant documentation.

It includes single stage and single run regulator systems, manual control valves, diaphragm and sleeve regulators, and small capacity union connected positive displacement meters.

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

Pre-requisite Unit

Not applicable.

Competency Field

Gas Control Centre (Gas System Operations)

Unit Sector

Gas Industry

Elements and Performance Criteria

ELEMENTS

Elements describe the essential outcomes.

1 Prepare to maintain gas flow, pressure control and measuring devices

PERFORMANCE CRITERIA

Performance criteria describe the performance needed to demonstrate achievement of the element.

- 1.1** Work health and safety (WHS)/occupational health and safety (OHS) workplace procedures and environmental measures for the site are identified, obtained and applied
- 1.2** Plans, specifications and instructions for the work

schedule are obtained and discussed with relevant person/s in accordance with job requirements and workplace procedures

- 1.3** WHS/OHS, environmental and sustainable energy policies and procedures are obtained and applied in accordance with workplace procedures
- 1.4** Hazards are identified, WHS/OHS risks are assessed and control measures prioritised, implemented and monitored in accordance with workplace procedures
- 1.5** Scope of the responsibility under the relevant work permit and/or relevant notification to access, isolate/de-energise systems and perform work is obtained and confirmed with relevant person/s in accordance with job requirements and workplace procedures
- 1.6** Equipment, tools and personal protective equipment (PPE) required for the work are identified, scheduled, obtained and checked for correct operation and safety in accordance with workplace procedures
- 1.7** Relevant person/s are consulted to ensure the work is coordinated effectively with others involved
- 1.8** Materials, plans, diagrams, drawings and resources required to maintain the devices are confirmed, scheduled and obtained in accordance with workplace procedures
- 1.9** First aid, emergency and other related work safety procedures for an incident at the work site are checked and confirmed
- 1.10** Third-party issues are referred to relevant person/s in accordance with workplace procedures
- 1.11** Site preparation, safety plan and work schedule are confirmed with relevant person/s in accordance with workplace procedures

2 Maintain gas flow, pressure control and measuring devices

- 2.1** WHS/OHS risk control measures, schedule of work and workplace procedures for carrying out work are followed
- 2.2** Gas detectors are used to determine gas concentration levels at the work site to locate and pinpoint any gas escapes and supervisor advised of site safety in

accordance with workplace procedures

- 2.3 Materials, tools, equipment, PPE and measuring devices for the work are selected and used correctly and safely in accordance with manufacturer instructions and workplace procedures
- 2.4 Hazardous activities are conducted safely in accordance with WHS/OHS workplace procedures and job instructions
- 2.5 Work is carried out to the required standard, without waste of materials or damage to apparatus, circuits, and the surrounding environment or services using sustainable energy principles
- 2.6 Hazard warnings and safety signs are recognised, hazards assessed and WHS/OHS risks and incidents reported to authorised person/s for directions in accordance with workplace procedures
- 2.7 Information on gas flow, pressure measurement and control device performance is collected and reported in accordance with workplace procedures
- 2.8 Maintenance of components is conducted in accordance with work schedule and workplace procedures
- 2.9 Regulator, filter and meter components are set up and tested and system purged and pressurised in accordance with workplace procedures
- 2.10 Faults and operational conditions of the components are identified, repaired/replaced and reported in accordance with workplace procedures
- 2.11 Unplanned events are referred to relevant person/s for directions in accordance with workplace procedures
- 2.12 Quality and safety checks are carried out in accordance with job instructions and workplace procedures

3 Complete work and relevant documentation

- 3.1 WHS/OHS risk control measures for work completion and procedures are followed
- 3.2 Work site is tidied and made safe in accordance with workplace procedures
- 3.3 Tools, equipment and any surplus resources and materials are cleaned, checked and securely stored or

disposed of in accordance with workplace procedures

3.4 Relevant person/s are notified of work completion in accordance with workplace procedures

3.5 Work completion documentation is completed accurately and provided to relevant person/s in accordance with workplace procedures

Foundation Skills

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

Range of Conditions

Range is restricted to essential operating conditions and any other variables essential to the work environment.

Non-essential conditions may be found in the UEG Gas Industry Training Package Companion Volume Implementation Guide.

work must be conducted in the following gas facilities:

- district and customer metering and regulator sets
- distribution line and path valves

Unit Mapping Information

This unit replaces and is equivalent to UEGNSG804A Maintain Single Stage and Single Run Gas Flow and Pressure Control and Measuring Devices.

Links

Companion Volume Implementation Guides are found in VETNet -
<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=6a6c032e-ffcb-4f3d-8063-415efbd261e8>

Assessment Requirements for UEGNSG804 Maintain single stage and single run gas flow and pressure control and measuring devices

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 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
 - recognising hazard warnings and safety signs
 - implementing risk control measures
- applying sustainable energy and environmental principles and practices
- collecting information on equipment performance
- communicating effectively with relevant person/s
- completing required documentation and reporting
- completing work and relevant documentation
- dealing with unplanned events/situations in accordance with workplace procedures in a manner that minimises risk to personnel and equipment
- following schedules, procedures and manuals
- identifying and interpreting drawings, diagrams and plans
- locating and pinpointing gas escapes
- maintaining a clean and safe work site
- maintaining components and devices
- maintaining gas flow, pressure control and measuring devices
- operating, adjusting/testing, fault finding and maintaining components, pressure measurement, control and relief devices
- performing quality and safety checks
- preparing to maintain gas flow, pressure control and measuring devices
- referring third party issues
- selecting correct materials, equipment, tools, personal protection equipment (PPE) and measurement devices

- setting up, testing and purging components
- using gas detectors to determine site safety.

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:

- component purging
- environmental and sustainable energy principles and practices
- flow measurement equipment
- gas detectors
- gas distribution regulator facilities and components
- gas filtering systems types and components
- manual gas flow control and components
- pressure control equipment
- problem solving techniques
- quality and safety checks
- relevant equipment and component performance
- relevant equipment/component fault finding, repair and replacement
- relevant equipment/component maintenance
- relevant legislation, standards, codes, guidelines and regulations
- relevant manufacturers' specifications
- relevant materials, plans, diagrams, drawings and resources
- relevant permits/notifications required
- relevant PPE and safety equipment
- relevant safe work method statements (SWMS)/job safety assessments or risk mitigation processes
- relevant WHS/OHS legislated requirements
- relevant workplace policies and procedures
- reporting and documentation requirements
- safe gas concentration levels
- site preparation, work schedules, safety plans and job requirements
- techniques to minimise waste
- third-party issues.

Assessment Conditions

As a minimum, assessors must satisfy applicable regulatory requirements, which include requirements in the Standards for Registered Training Organisations current at the time of assessment.

As a minimum, assessment must satisfy applicable regulatory requirements, which include

requirements in the Standards for Registered Training Organisations current at the time of assessment.

Assessment must occur in workplace operational situations where it is appropriate to do so; where this is not appropriate, assessment must occur in simulated workplace operational situations that replicate workplace conditions.

Assessment processes and techniques must be appropriate to the language, literacy and numeracy requirements of the work being performed and the needs of the candidate.

Resources for assessment must include access to:

- a range of relevant exercises, case studies and/or 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>

UEGNSG805 Maintain multi-stage and multi-run gas flow and pressure measuring and regulating devices

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 maintain multi-stage and multi-run gas flow and pressure measuring and regulating device of gas distribution and transmission facilities in accordance with relevant legislation, codes of practice and regulations.

It includes maintenance of gas station to equipment which includes non-supervisory control and data acquisition (SCADA) operated multi-stage and multi-run systems, control valves, regulators and meters.

This unit applies to the following types of gas stations, subject to work health and safety (WHS)/occupational health and safety (OHS) and duty of care requirements being met for the workplace:

- pressure reduction stations, district and customer regulator sets
- compressor stations
- meter stations and customer meter sets
- custody transfer stations
- inlets and city gates
- scraper stations
- gas storage facilities
- non-SCADA main line valves.

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

Pre-requisite Unit

UEGNSG006 Use a portable gas detector to locate escape

UEGNSG804 Maintain single stage and single run gas flow and pressure control and measuring devices

Competency Field

Pressure Control Discipline

Unit Sector

Gas Industry

Elements and Performance Criteria

ELEMENTS

Elements describe the essential outcomes.

1 Prepare multi-stage and multi-run gas flow and pressure measuring and regulating device

PERFORMANCE CRITERIA

Performance criteria describe the performance needed to demonstrate achievement of the element.

- 1.1** Work health and safety (WHS)/occupational health and safety (OHS) and environmental control measures for the site are identified, obtained and applied
- 1.2** Work requirements are interpreted from plans, specifications and instructions
- 1.3** Relevant job requirements and workplace procedures for work activities are discussed with relevant person/s to determine and confirm work schedule and respective responsibilities
- 1.4** WHS/OHS, environmental and sustainable energy workplace policies and procedures are determined and confirmed
- 1.5** Hazards are identified, WHS/OHS risks are assessed and control measures are prioritised, implemented and monitored in accordance with workplace procedures
- 1.6** Scope of responsibility under the relevant work permits and/or relevant notification is determined and confirmed to access, isolate/de-energise systems and perform work in accordance with job requirements and workplace procedures
- 1.7** Equipment, tools and personal protective equipment (PPE) needed to carry out work activities are identified, scheduled, obtained and checked for correct operation and safety
- 1.8** Appropriate person/s are consulted to ensure work activity is coordinated effectively with person/s involved
- 1.9** Materials, plans, diagrams, drawings and resources required for work are confirmed, scheduled and obtained

in accordance with workplace procedures

1.10 Relevant responsibilities associated with first aid and related workplace safety procedures at the work site are identified, checked and confirmed

1.11 Third-party issues are referred to appropriate person/s in accordance with workplace procedures

1.12 Site preparation, safety plan and work schedule are confirmed in accordance with workplace procedures

2 Maintain multi-stage and multi-run gas flow and pressure measuring and regulating device

2.1 WHS/OHS risk control measures, schedule of work and workplace procedures for carrying out work activities are followed

2.2 Gas detectors are used to determine work site gas concentration level and to locate and pinpoint any escaping gas and advise supervisor immediately if site is unsafe in accordance with workplace procedure

2.3 Appropriate materials, tools, equipment and measuring devices are selected and used safely in accordance with workplace procedures

2.4 Hazardous activities are conducted safely in accordance with work instructions, safe work practices and to job requirements

2.5 Work is carried out efficiently, to the required industry standard, without waste of materials or damage to apparatus, circuits, and the surrounding environment or services using sustainable energy principles

2.6 Hazard warnings and safety signs are identified and assessed as part of WHS/OHS risks and incident control measures and are reported to the authorised person/s for directions in accordance with workplace procedures

2.7 Data on system performance and usage is collected, reviewed and reported in accordance with workplace procedures

2.8 Gas station venting and purging operations are undertaken in accordance with workplace procedures

2.9 Regulator and meter runs and components are set up and operated, and system is purged and pressurised in

		accordance with workplace procedures
	2.10	Faults and operational conditions of the components are identified, repaired or replaced and reported in accordance with organisational job requirements
	2.11	Non-routine/unplanned events are referred to authorised person/s for directions in accordance with workplace procedures
	2.12	Routine work activity quality checks are carried out in accordance with workplace instructions
3 Complete work and relevant documentation	3.1	WHS/OHS risk control, work completion measures and workplace procedures are followed
	3.2	Work site is tidied and made safe in accordance with workplace procedures
	3.3	Tools, equipment and surplus resources and materials are cleaned, checked and securely stored
	3.4	Appropriate person/s are notified of work completion in accordance with workplace procedures
	3.5	Work completion documentation is completed accurately and provided to appropriate person/s in accordance with workplace procedures

Foundation Skills

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

Range of Conditions

Range is restricted to essential operating conditions and any other variables essential to the work environment.

Non-essential conditions may be found in the UEG Gas Industry Training Package Companion Volume Implementation Guide.

- in work must be conducted in at least three (3) of the following types of gas stations:
- pressure reduction stations, district and customer regulator sets
 - compressor stations
 - meter stations and customer meter sets
 - custody transfer stations
 - inlets and city gates

equipment must include the following:

- scraper stations
- gas storage facilities
- non-SCADA main line valves
- valves, types: ball, plug, double block and bleed
- pressure controllers
- at least two (2) types of regulators:
 - diaphragm, sleeve and hydraulic plug
- at least two (2) types of meters:
 - diaphragm, rotary and turbine

Note: fault finding is limited to the component level.

constants and variables must include the following:

- monitoring, adjusting and controlling
- regulation of flow and pressure
- gas measurement
- recording and reporting
- regulation of the system
- equipment
- organisational and statutory requirements
- low voltage electrical work

third-party issues referred to appropriate person/s must include the following:

Unit Mapping Information

This unit replaces and is equivalent to UEGNSG805A Maintain Multi-Stage and Multi-Run Gas Flow and Pressure Measuring and Regulating Devices.

Links

Companion Volume Implementation Guides are found in VETNet -
<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=6a6c032e-ffcb-4f3d-8063-415efbd261e8>

Assessment Requirements for UEGNSG805 Maintain multi-stage and multi-run gas flow and pressure measuring and regulating devices

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 relevant work health and safety (WHS)/occupational health and safety (OHS) requirements, including:
 - applying workplace procedures and practices
 - using of risk control measures
- applying sustainable energy principles and practices
- carrying out work on gas flow and pressure measuring and regulating devices in accordance with relevant legislation, codes of practice, regulations and workplace procedures
- completing required documentation and reporting
- dealing effectively with unplanned events in accordance with workplace procedures in a manner that minimises risk to personnel and equipment
- identifying and interpreting drawings, diagrams, schedules, workplace procedures and manuals relevant to the work to be undertaken
- purging and venting gas components
- replacing, operating, fault finding, adjusting and maintaining gas valves, filters, regulators and pressure relief devices
- replacing, operating, fault finding, adjusting/testing, and maintaining pressure measurement, control, boosters and relief devices
- selecting correct materials, equipment, tools, personal protection equipment (PPE) and measurement devices.

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:

- gas distribution and transmission station, including types, principles of operation and components

- gas flow and pressure measuring and regulating device operation and maintenance
- relevant legislation, standards, codes of practice and workplace procedures
- gas flow control fault finding, repair and/or replacement
- gas flow control, including principles, component types and operation and maintenance
- gas flow measurement equipment, including:
 - types
 - positive displacement meters
 - turbine meters
 - operation
 - maintenance
 - fault finding, repair and replacement
- gas monitoring equipment, including types, principles of operation, components, maintenance and fault finding, repair and/or replacement
- gas pressure control equipment, including:
 - types
 - pilot loaded diaphragm and sleeve regulators
 - slam shuts
 - pressure relief valve (PRV)
 - principles of operation
 - multi-runs and stage systems, inter-stage and active/monitor
 - maintenance
 - fault finding, repair and replacement
- gas station alarms and safety devices
- gas station valves types, operation and maintenance
- gas station venting and purging operations
- multi-stage gas flow and pressure control and measurement maintenance
- relevant legislation, standards, codes of practice and regulations
- relevant manufacturer specifications, manuals and procedures
- relevant safe work method statements (SWMS)/job safety assessments or risk mitigation processes
- safe working practices for carrying out work in a gas industry environment
- safe working practices, techniques and practices for hazardous activities, including:
 - lifting, climbing, working in confined spaces, excavations, trenches, working aloft, and use of power tools
- relevant WHS/OHS legislated requirements
- relevant workplace reporting and documentation requirements, including gas facility manuals, schematics, supervisory control and data acquisition (SCADA) displays, switches, piping and instrumentation diagram/drawing
- relevant workplace policies and 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 suitable workplace operational situations where it is appropriate to do so; where this is not appropriate, assessment must occur in suitable 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, facilities, equipment and PPE currently used in industry
- applicable documentation, including workplace procedures, equipment specifications, environmental regulation, work practices, 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>

UEGNSG806 Maintain SCADA controlled flow and pressure equipment and electronic gas measurement equipment

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 maintain supervisory control and data acquisition system (SCADA) controlled gas distribution and transmission station facilities in accordance with relevant legislation, codes of practice, regulations and workplace procedures.

It includes gas station maintenance of equipment, including remotely operated and controlled valves, air loaded and SCADA controlled regulators, Coriolis, and ultrasonic and electronic meters.

This unit applies to the following types of gas stations, subject to work health and safety (WHS)/occupational health and safety (OHS) and duty of care requirements being met for the workplace:

- compressor stations
- custody transfer stations
- inlets and city gates
- scraper stations
- gas storage facilities
- SCADA controlled main line valves

The skills and knowledge described in this unit require a licence or permit to practice in the workplace where work is carried out on electrical installations which are designed to operate at voltages greater than 50 V a.c. or 120 V d.c.

Competency development activities in this unit are subject to regulations directly related to licencing.

Additional and/or other conditions may apply in some jurisdictions subject to regulations related to electrical work. Practice in the workplace and during training is also subject to WHS/OHS regulations.

Pre-requisite Unit

UEGNSG006 Use a portable gas detector to locate escape

Competency Field

Pressure Control Discipline

Unit Sector

Gas Industry

Elements and Performance Criteria

ELEMENTS

Elements describe the essential outcomes.

1 Prepare SCADA controlled gas flow and pressure equipment and electronic gas measurement equipment

PERFORMANCE CRITERIA

Performance criteria describe the performance needed to demonstrate achievement of the element.

- 1.1** WHS/OHS and environmental control measures for the gas station site are identified, obtained and applied
- 1.2** Work requirements are interpreted from plans, specifications and instructions
- 1.3** Relevant job requirements and workplace procedures for work activities are discussed with relevant person/s to determine and confirm work schedule and respective responsibilities
- 1.4** WHS/OHS, environmental and sustainable energy policies and workplace procedures are determined and confirmed
- 1.5** Hazards are identified, WHS/OHS and risks are assessed, and control measures are prioritised, implemented and monitored in accordance with workplace procedures
- 1.6** Scope of responsibility under the relevant work permits and/or relevant notification is determined and confirmed to access, isolate/de-energise systems and perform work in accordance with job requirements and workplace procedures
- 1.7** Equipment, tools and personal protective equipment (PPE) needed to carry out work activities are identified, scheduled, obtained and checked for correct operation

and safety

- 1.8 Appropriate person/s are consulted to ensure work activity is coordinated effectively with person/s involved
- 1.9 Materials, plans, diagrams, drawings and resources required for work are confirmed, scheduled and obtained in accordance with workplace procedures
- 1.10 Relevant responsibilities associated with first aid and related workplace safety procedures at the work site are identified, checked and confirmed
- 1.11 Third-party issues are referred to appropriate person/s in accordance with workplace procedures
- 1.12 Site preparation, safety plan and work schedule are confirmed in accordance with workplace procedures

2 Maintain SCADA controlled gas flow and pressure equipment and electronic gas measurement equipment

- 2.1 WHS/OHS risk control measures, schedule of work and workplace procedures for carrying out work activities are followed
- 2.2 Gas detectors are used to determine work site gas concentration levels and to locate and pinpoint any escaping gas, and supervisor advised immediately if site is unsafe in accordance with workplace procedures
- 2.3 Appropriate materials, tools, equipment and measuring devices are selected and used safely in accordance with workplace procedures
- 2.4 Hazardous activities are conducted safely in accordance with given instructions and to requirements
- 2.5 Work is carried out efficiently, to required industry standard, without waste of materials or damage to apparatus, circuits, and the surrounding environment or services using sustainable energy principles
- 2.6 Hazard warnings and safety signs are identified and assessed as part of WHS/OHS risks and incident control measures and are reported to authorised person/s for directions in accordance with workplace procedures
- 2.7 Electrical isolations are scheduled, and local/remote control actuated and communicated in accordance with

workplace procedures

- 2.8** Data on system performance, usage and unplanned events is collected, reviewed and reported in accordance with workplace procedures
- 2.9** Gas station venting and purging operations are undertaken in accordance with workplace procedures
- 2.10** Gas flow regulator and meter runs, and components are set up and operated, and system is vented, purged and pressurised in accordance with workplace procedures
- 2.11** Process variables and set points are taken and required adjustments and repairs are carried out in accordance with workplace procedures
- 2.12** Actuators are isolated/ de-energised in accordance with manufactures instructions and workplace company procedures
- 2.13** Procedures for referring non-routine events to the authorised person/s for directions are followed
- 2.14** Routine work activity quality checks are carried out in accordance with workplace instructions

3 Complete SCADA maintenance work and relevant documentation

- 3.1** WHS/OHS risk control work completion measures and procedures are followed
- 3.2** Work site is tidied and made safe in accordance with workplace procedures
- 3.3** Tools, equipment and surplus resources and materials are cleaned, checked and securely stored
- 3.4** Appropriate person/s are notified of work completion in accordance with workplace procedures
- 3.5** Work completion documentation is completed accurately and provided to appropriate person/s in accordance with workplace procedures

Foundation Skills

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

Range of Conditions

Range is restricted to essential operating conditions and any other variables essential to the work environment.

Non-essential conditions may be found in the UEG Gas Industry Training Package Companion Volume Implementation Guide.

equipment must include the following:

- remotely operated valves, types: double block and bleed
- remote telemetry units (RTU's) and controllers
- actuators: pneumatic, electric and I To P convertors
- pressure controllers
- meters: Coriolis and ultrasonic

Note: Fault finding is limited to the component level.

constants and variables must include the following:

- monitoring, adjusting and controlling
- regulation of flow and pressure
- gas measurement
- recording and reporting
- regulation of the system
- equipment
- organisational and statutory requirements
- low voltage electrical work

third-party issues referred to appropriate person/s must include the following:

Unit Mapping Information

This unit replaces and is equivalent to UEGNSG806A Maintain SCADA controlled flow and pressure equipment and electronic gas measurement equipment.

Links

Companion Volume Implementation Guides are found in VETNet -

<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=6a6c032e-ffcb-4f3d-8063-415efbd261e8>

Assessment Requirements for UEGNSG806 Maintain SCADA controlled flow and pressure equipment and electronic gas measurement equipment

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 relevant work health and safety (WHS)/occupational health and safety (OHS) requirements, including:
 - applying workplace procedures and practices
 - using of risk control measures
- applying sustainable energy principles and practices
- completing required documentation and reporting
- dealing effectively with unplanned events in accordance with workplace procedures in a manner that minimises risk to personnel and equipment
- identifying and interpreting correctly drawings, diagrams, schedules, workplace procedures and manuals relevant to the work to be undertaken
- maintaining supervisory control and data acquisition system (SCADA) controlled gas flow and pressure measuring and regulating device in accordance with relevant legislation, industry standards, codes of practice, regulations and workplace procedures
- purging and venting components
- replacing, operating, fault finding, adjusting and maintaining gas valves, filters, regulators and pressure relief device
- replacing, operating, fault finding, adjusting/testing, and maintaining pressure measurement, control, boosters and relief device
- selecting correct materials, equipment, tools, personal protection equipment (PPE) and measurement device.

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:

- component types, function and operation, including:

- data collection and equipment control functions, including:
 - remote telemetry unit (RTU)
 - plant control system (PCS)
 - programmable logic controllers (PLCs)
 - distributive control systems (DCS)
- flow control, filtration, pressure control, overpressure control, turbine, ultrasonic and Coriolis metering
- gas station maintenance requirements and procedures
- hazardous activities, including lifting, climbing, working in confined spaces, excavations, trenches or aloft, and use of power tools, techniques and practices
- maintenance supervisory control and data acquisition system (SCADA) gas flow and pressure measuring and regulating device
- principles of SCADA use in monitoring and control of applicable organisational gas infrastructure
- relevant job safety assessments or risk mitigation processes
- relevant legislation, industry standards and codes of practice
- relevant manufacturer specifications, manuals and procedures
- relevant WHS/OHS legislated requirements
- relevant workplace policies and procedures
- relevant workplace reporting and documentation requirements, including:
 - gas facility manuals
 - schematics
 - SCADA displays
 - switches, piping and instrumentation diagram/drawing
- RTUs and associated controller maintenance
- SCADA controlled gas station venting, purging and pressurisation operations
- SCADA gas flow measurement equipment
- SCADA gas station alarms and safety devices
- SCADA operated gas conditioning and monitoring equipment
- SCADA operated gas station valves
- SCADA operated pressure control equipment.

Assessment Conditions

As a minimum, assessors must satisfy applicable regulatory requirements, which include requirements in the Standards for Registered Training Organisations current at the time of assessment.

As a minimum, assessment must satisfy applicable regulatory requirements, which include requirements in the Standards for Registered Training Organisations current at the time of assessment.

Assessment 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>

UEGNSG807 Install gas flow, measuring and pressure regulating devices

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 install gas flow, measuring and pressure regulating devices in accordance with relevant legislation, codes of practice, regulations and workplace procedures.

It includes installing of gas valves, pressure controllers, regulators and meters in gas facilities and stations.

This unit applies to the following types of gas stations, subject to all work health and safety (WHS)/occupational health and safety (OHS) and duty of care requirements being met for the workplace:

- pressure reduction stations, district and customer regulator sets
- compressor stations
- meter stations and customer meter sets
- custody transfer stations
- inlets and city gates
- scraper stations
- gas storage facilities
- main line valves.

The skills and knowledge described in this unit require a licence or permit to practice in the workplace where work is carried out on electrical installations which are designed to operate at voltages greater than 50 V a.c. or 120 V d.c.

Competency development activities in this unit are subject to regulations directly related to licencing.

Additional and/or other conditions may apply in some jurisdictions subject to regulations related to electrical work. Practice in the workplace and during training is also subject to WHS/ OHS regulations.

Pre-requisite Unit

UEGNSG006 Use a portable gas detector to locate escape

Competency Field

Pressure Control Discipline

Unit Sector

Gas Industry

Elements and Performance Criteria

ELEMENTS

Elements describe the essential outcomes.

1 Prepare to install gas flow, measuring and pressure regulating device

PERFORMANCE CRITERIA

Performance criteria describe the performance needed to demonstrate achievement of the element.

- 1.1** WHS/OHS and environmental control measures for the site are identified, obtained and applied
- 1.2** Work requirements are interpreted from plans, specifications and instructions
- 1.3** Relevant job requirements and workplace procedures for work activities are discussed with relevant person/s to determine and confirm work schedule and respective responsibilities
- 1.4** WHS/OHS, environmental and sustainable energy workplace policies and procedures are determined and confirmed
- 1.5** Hazards are identified, WHS/OHS risks are assessed and control measures are prioritised, implemented and monitored in accordance with workplace procedures
- 1.6** Scope of responsibility under the relevant work permits and/or relevant notification is determined and confirmed to access, isolate/de-energise systems and perform work in accordance with job requirements and workplace procedures
- 1.7** Equipment, tools and personal protective equipment (PPE) needed to carry out work activities are identified, scheduled, obtained and checked for correct operation and safety
- 1.8** Appropriate persons are consulted to ensure work

activity is coordinated effectively with person/s involved

- 1.9** Materials, plans, diagrams, drawings and resources required for work are confirmed and obtained in accordance with workplace procedures
- 1.10** Relevant responsibilities associated with first aid and related workplace safety procedures at the work site are identified, checked and confirmed
- 1.11** Third-party issues are referred to appropriate person/s in accordance with workplace procedures
- 1.12** Site preparation, safety plan and work schedule are confirmed in accordance with workplace procedures

2 Install gas flow, measuring and pressure regulating device

- 2.1** WHS/OHS risk control measures, schedule of work and workplace procedures for carrying out work are followed
- 2.2** Appropriate materials, tools, equipment and measuring devices are selected and used safely in accordance with workplace procedures
- 2.3** Hazardous activities are conducted safely in accordance with given safe work instructions and to job requirements
- 2.4** Work is carried out efficiently, to required industry standard, without waste of materials or damage to apparatus, circuits, and the surrounding environment or services using sustainable energy principles
- 2.5** Hazard warnings and safety signs are identified and assessed as part of WHS risks and incident control measures and are reported to authorised person/s for directions in accordance with workplace procedures
- 2.6** Installation of components is conducted in accordance with work schedule and workplace procedures
- 2.7** Gas flow regulator, filters and meter components system are purged, pressurised and checked for soundness in accordance with workplace procedures
- 2.8** Non-routine/unplanned events are referred to the immediate authorised person/s for directions in accordance with workplace procedures

	2.9	Routine work activity quality checks are carried out in accordance with workplace instructions
3 Complete work and relevant documentation	3.1	WHS/OHS risk control, work completion measures and workplace procedures are followed
	3.2	Work site is tidied and made safe in accordance with workplace procedures
	3.3	Tools, equipment and surplus resources and materials are cleaned, checked and securely stored
	3.4	Appropriate person/s are notified of work completion in accordance with workplace procedures
	3.5	Work completion documentation is completed accurately and provided to appropriate persons in accordance with workplace procedures

Foundation Skills

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

Range of Conditions

Range is restricted to essential operating conditions and any other variables essential to the work environment.

Non-essential conditions may be found in the UEG Gas Industry Training Package Companion Volume Implementation Guide.

- work must be conducted in at least three (3) of the following types of gas facilities/stations:
- district and customer metering and regulator sets
 - distribution line and path valves
 - pressure reduction stations, district and customer regulator sets
 - compressor stations
 - meter stations and customer meter sets
 - custody transfer stations
 - inlets and city gates
 - scraper stations
 - gas storage facilities
 - non-supervisory control and data acquisition (SCADA) main line valves

equipment must include the following:

- valves: manual, ball, plug, double block and bleed
- pressure controllers
- actuators
- at least two (2) types of regulators:
- diaphragm, sleeve and hydraulic plug
- at least two (2) types of meters: small capacity union connected positive displacement meters, diaphragm, rotary and turbine

Note: fault finding is limited to the component level.

constants and variables must include the following:

- monitoring, adjusting and controlling
- regulation of flow and pressure
- gas measurement
- recording and reporting
- regulation of the system
- equipment
- organisational and statutory requirements
- low voltage electrical work

third-party issues referred to appropriate person/s must include the following:

Unit Mapping Information

This unit replaces and is equivalent to UEGNSG807A Install Gas Flow, Measuring and Pressure Regulating Devices.

Links

Companion Volume Implementation Guides are found in VETNet -
<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=6a6c032e-ffcb-4f3d-8063-415efbd261e8>

Assessment Requirements for UEGNSG807 Install gas flow, measuring and pressure regulating devices

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 relevant work health and safety (WHS)/occupational health and safety (OHS) requirements, including:
 - applying workplace procedures and practices
 - using of risk control measures
- applying sustainable energy principles and practices
- carrying out work on gas flow and pressure measuring and regulating devices in accordance with relevant legislation, code of practice, regulations and workplace procedures
- completing required documentation and reporting requirements
- dealing effectively with unplanned events in accordance with workplace procedures in a manner that minimises risk to personnel and equipment
- identifying and interpreting correctly drawings, diagrams, schedules, procedures and manuals relevant to the work to be undertaken
- installing gas valves, filters, regulators and pressure relief devices
- installing pressure measurement, control, boosters and relief devices in accordance with relevant legislation, industry standards, codes of practice and workplace procedures
- purging, pressurising, checking soundness and venting components
- selecting correct materials, equipment, tools, personal protection equipment (PPE) and measurement devices, including tools, torqueing equipment, bonding and stray current controls.

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:

- flow measurement equipment, types, operation and installation
- gas distribution and transmission stations principles of operation
- gas filtering system types, principles of operation, components, including gas strainers,

filters, differential pressure indicators

- gas flow and pressure control and measurement devices installation
- gas flow control principles, component types and operation
- gas monitoring equipment, types, principles of operation, components and installation
- gas station alarms and safety devices, types, operation and installation
- gas station valves, types, operation and installation
- gas station venting, purging, pressurising and soundness check operations
- hazardous activities, including lifting, climbing, working in confined spaces, excavations, trenches or aloft, and use of power tools, techniques and practices
- pressure control equipment, types, pilot loaded diaphragm and sleeve regulators
- relevant job safety assessments or risk mitigation processes
- relevant legislation, industry standards, codes and regulations WHS/OHS legislated requirements
- relevant manufacturer specifications, manuals and procedures
- relevant workplace policies and procedures, including gas facility manuals, schematics, piping and instrumentation diagram/drawing
- relevant workplace reporting and documentation requirements
- tools, torqueing equipment, bonding and stray current controls.

Assessment Conditions

As a minimum, assessors must satisfy applicable regulatory requirements, which include requirements in the Standards for Registered Training Organisations current at the time of assessment.

As a minimum, assessment must satisfy applicable regulatory requirements, which include requirements in the Standards for Registered Training Organisations current at the time of assessment.

Assessment must occur in workplace operational situations where it is appropriate to do so; where this is not appropriate, assessment must occur in simulated workplace operational situations that replicate workplace conditions.

Assessment processes and techniques must be appropriate to the language, literacy and numeracy requirements of the work being performed and the needs of the candidate.

Resources for assessment must include access to:

- a range of relevant exercises, case studies and/or 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>

UEGNSG811 Monitor and operate complex flow control, measuring and regulating devices for gas distribution

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 monitor and operate complex flow control, measuring and regulating device to monitor and control gas supply in gas distribution system in accordance with relevant legislation, codes of practice, regulations and workplace procedures.

It includes on site local inspecting and controlling of gas flow and pressure; local monitoring of gas flow, pressure and measurement; recording and reporting on anomalies to gas flow pressure and measurement; and controlling the system to organisational and statutory requirements.

This unit applies to gas distribution systems, subject to all work health and safety (WHS)/occupational health and safety (OHS) and duty of care requirements being met for the workplace.

The application of the skills and knowledge described in this unit may require a license or permit to practice in the workplace.

Other conditions may apply under state and territory legislative and regulatory licencing requirements which must be confirmed prior to commencing this unit.

Pre-requisite Unit

Not applicable.

Competency Field

Pressure Control Discipline

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 monitor and operate gas flow control, measuring and regulating devices

- 1.1** Work requirements for monitoring and operating complex gas flow control, measuring and regulating device are interpreted from plans, specifications and job instructions
- 1.2** Relevant requirements and workplace procedures for work activities are communicated to relevant person/s
- 1.3** WHS/OHS, environmental and sustainable energy workplace policies and procedures related to the monitoring and operating of complex flow controls are obtained, confirmed and communicated to relevant person/s
- 1.4** Work activities are prioritised and sequenced in consultation with relevant person/s for completion within acceptable timeframes and in accordance with workplace procedures
- 1.5** Risk control measures for identified hazards are prioritised, implemented and monitored in accordance with work schedule
- 1.6** Relevant work permits are obtained to access, isolate/de-energise systems and perform work in accordance with job requirements and workplace procedures
- 1.7** Resources, appropriately licensed person/s, equipment, tools and personal protective equipment (PPE) required for work activities are identified, scheduled and confirmed in a safe working order
- 1.8** Liaison and communication with authorised person/s, authorities, clients and land owners is undertaken so work activities can be carried out, as required
- 1.9** Persons participating in work activities are fully briefed and respective responsibilities confirmed, as required, in accordance with workplace procedures

2 Monitor and operate gas flow control, measuring and regulating devices

- 2.1** Gas flow device and equipment performance information is collected and reported in accordance with workplace and job requirements
- 2.2** Dealings with customers are consistent with workplace

procedures and the specific needs of customers are identified and considered in targeting client service

- 2.3 Monitoring and operating complex flow control devices workplace procedures are applied to ensure job is completed in agreed timeframe and to quality industry standards with a minimum of waste in accordance with job requirements
- 2.4 Routine inspections of system are scheduled and monitored in accordance with the work schedule and workplace procedures
- 2.5 Hazard warnings and safety signs are identified and hazards WHS/OHS risks assessed and reported to authorised person/s for directions in accordance with workplace procedures
- 2.6 Data on system performance and usage is collected, analysed and reported with any unplanned events in the monitoring and operation of complex flow control in accordance with workplace procedures
- 2.7 Ongoing quality checks of work activities are undertaken in accordance with given instructions and workplace procedures

3 Control and adjust flows and complete records and reports

- 3.1 Flow regulating systems are inspected and adjustments made to meet gas flow demand and customer requirements
- 3.2 Accidents and injuries are reported, as required in accordance with workplace procedures
- 3.3 Gas flows and diversions are determined to facilitate repair or emergency activities in accordance with organisational job requirements
- 3.4 Process faults and operational conditions of the gas system are identified, addressed and reported in accordance with organisational requirements
- 3.5 Work completion records, reports and documentation are finalised, processed and appropriate person/s notified

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 Volume Implementation Guide.

competency must demonstrate monitoring and operating of complex gas flow control, measuring and regulating devices for gas pressure and flow control with the following:

constants and variables must include the following:

equipment must include at least two (2) of the following procedures:

basic regulators must include at least two (2) of the following:

distribution valves must include the following:

meters must include at least two (2) of the following:

operational checks must include at least three (3) of the following:

pressure alterations must include the following:

- custody transfer stations
- inlets and city gates
- scraper stations
- gas storage facilities
- main line valves
- inspecting and controlling
- regulation of flow and pressure
- measuring
- recording and reporting
- regulation of flow and regulation devices
- regulation of the system
- equipment
- organisational and statutory requirements
- pressure controllers - operation and maintenance commissioning/setting
- troubleshooting
- pressure boosters minor repairs
- types/models
- sleeve types
- diaphragm types
- hydraulic plug types
- ball, plug, gate instrument and butterfly valves
- meters diaphragm meters
- rotary meters
- turbine meters
- oil changing
- single run units
- dual run units
- district regulators
- field regulators
- industrial units
- regulator stations

- flaring and purging must include the following:
- overpressure protection systems - function and operation must include at least three (3) of the following:
- documentation must include the following:
- regulator station heaters must include the following:
- distribution mains
 - industrial units
 - regulator stations
 - distribution mains
 - over-pressure shut-off (OPSO)
 - internal pressure relief systems
 - pressure relief valves
 - slam shut systems
 - valve actuator & control systems
 - risk assessments
 - timesheets
 - completing worksheets
 - notifications and work permits
 - equipment checklists
 - meter bypass forms
 - service orders
 - pressure recording charts
 - heater: scheduled maintenance procedures
 - heater: operational checks
 - water quality testing

Unit Mapping Information

This unit replaces and is equivalent to UEGNSG811A Monitor and operate complex flow control, measuring and regulating devices for gas distribution.

Links

Companion Volume Implementation Guides are found in VETNet - <https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=6a6c032e-ffcb-4f3d-8063-415efbd261e8>

Assessment Requirements for UEGNSG811 Monitor and operate complex flow control, measuring and regulating devices for gas distribution

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 relevant work health and safety (WHS)/occupational health and safety (OHS) requirements, including:
 - applying workplace procedures and practices
 - using of risk control measures
- applying sustainable energy principles and practices
- completing required documentation and reporting requirements
- dealing effectively with unplanned events in accordance with workplace procedures in a manner that minimises risk to personnel and equipment
- monitoring and operating supervisory control and data acquisition (SCADA) for gas distribution systems in accordance with relevant legislation, industry standards, codes of practice, regulations 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, performance criteria and range of conditions and include knowledge of:

- component types, function and operation, including data collection and equipment control functions
- gas flow control device operation
- gas station operation requirements and procedures
- principles of SCADA use in monitoring and control of applicable organisational gas infrastructure
- relevant job safety assessments or risk mitigation processes
- relevant legislation, industry standards, codes of practice and regulations
- relevant manufacturer specifications, manuals and procedures
- relevant organisation gas facility manuals, schematics, SCADA displays, switches and

procedures

- relevant workplace documentation
- relevant workplace policies and procedures
- SCADA gas flow measurement equipment
- SCADA operated gas conditioning and monitoring equipment, principles of operation, components and fault finding, adjustments and minor repairs
- SCADA operated pressure control equipment
- WHS/OHS legislated requirements.

Assessment Conditions

As a minimum, assessors must satisfy applicable regulatory requirements, which include requirements in the Standards for Registered Training Organisations current at the time of assessment.

As a minimum, assessment must satisfy applicable regulatory requirements, which include requirements in the Standards for Registered Training Organisations current at the time of assessment.

Assessment 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 personal protective equipment (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>

UEPMNT367 Install and commission stationary gas fuelled reciprocating engines

Modification History

Release 1. This is the first release of this unit of competency in the UEP Generation Training Package.

Application

This unit involves the skills and knowledge required to undertake the installation and commissioning of stationary gas fuelled reciprocating engines.

Installation and commissioning is a key feature of placing stationary gas fuelled reciprocating engines into service. Completing installation and commissioning correctly ensures the reliability of stationary gas fuelled reciprocating engines for its service life.

Competency in this unit requires the ability to work safely to installation standards matching the plant or equipment, location, components and fuel train pipe work relevant to given specifications. Commissioning plant and equipment includes performing precommissioning tests, start ups and adjusting components and controls for safe and efficient operation. It also includes completing all necessary installation and commissioning documentation. Individuals will, in general, work as a maintenance operative, in a power generation facility.

Power generation maintenance personnel are typically trained and authorised to receive permits to work.

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

Note: Workplace practices

The application of the skills and knowledge described in this unit of competency may require a licence or training permit to practice in the workplace, where work is carried out on gas and electrical installations. Additional and/or other conditions may apply under state and territory legislative and regulatory licensing requirements.

Pre-requisite Unit

CPCCWHS1001 Work safely in the construction industry

HLTAID001 Provide cardiopulmonary resuscitation.

Competency Field

Maintenance

Unit Sector

Electricity generation

Elements and Performance Criteria

ELEMENTS

Elements describe the essential outcomes.

1 Prepare to install and commission stationary gas fuelled reciprocating engine

PERFORMANCE CRITERIA

Performance criteria describe the performance needed to demonstrate achievement of the element.

- 1.1** Work, Health and Safety (WHS)/Occupational Health and Safety (OHS) regulations are obtained and implemented, in accordance with workplace procedures
- 1.2** Health and safety risks are identified and risk control measures are followed, in accordance with workplace procedures
- 1.3** Safety hazards that have not previously been identified are noted and risk control measures are implemented, in accordance with workplace procedures
- 1.4** Design specification for gas fuelled reciprocating engines to be installed and commissioned are accessed, analysed and confirmed through a detailed site inspection
- 1.5** Design specification matters requiring clarification are resolved through liaison with designer and gas authorities
- 1.6** Formal authority to proceed with installation and commissioning of stationary gas fuelled reciprocating engine is obtained before commencing work, in accordance with workplace procedures, regulatory and code of practice requirements
- 1.7** Installation is prepared and is sequenced, in accordance with workplace procedures and quality assurance requirements
- 1.8** Nature and location of the installation and commissioning of the stationary gas fuelled reciprocating engine is determined from documentation or appropriate personnel to establish scope of work and assigned roles to be undertaken

- 1.9 Stationary gas fuelled reciprocating engine plant, equipment component specifications and manufacturers' manuals are obtained
 - 1.10 Plant, equipment, fuel train pipe work and components are identified and locations are sequenced within the constraints of site and work requirements
 - 1.11 Materials needed for installation are obtained, in accordance with workplace procedures and design specifications
 - 1.12 Tools and equipment including personal protective equipment and testing devices are obtained, in accordance with workplace procedures and are checked for correct operation and safety
 - 1.13 Work area is prepared to support installation and commissioning of gas fuelled reciprocating engine plant and equipment
- 2 **Install stationary gas fuelled reciprocating engine**
 - 2.1 Regulatory and code of practice recording and reporting requirements are satisfied throughout work sequence, in accordance with workplace procedures
 - 2.2 Gas and electrical circuits, machines and plant are checked as being isolated, in accordance with workplace procedures
 - 2.3 Stationary gas fuelled reciprocating engine components including fuel train, associated pipe work and flue/exhaust systems are installed, in accordance with workplace procedures, design specifications, technical standards and regulatory requirements
 - 2.4 Ventilation systems are installed, in accordance with workplace procedures and design specifications
 - 2.5 Electrical components, wiring enclosures and terminations are installed, in accordance with workplace procedures, design and manufacturers' specifications and regulatory requirements
 - 2.6 Ongoing compliance and safety inspections of installed gas fuelled reciprocating engine, equipment, pipe work, components and accessories is undertaken and identified defects are rectified
 - 2.7 Stationary gas fuelled reciprocating engine installation is

		carried out without waste of materials or damage to plant, equipment, pipe work, components, accessories, the surrounding environment or services using workplace identified sustainable energy principles and practices
	2.8	Unexpected situations are dealt with safely, in accordance with workplace procedures and the approval of authorised personnel
3 Commission stationary gas fuelled reciprocating engine	3.1	Gas and electrical safety checks and isolation procedures, including purging are completed and recorded to manufacturers' and regulatory requirements before testing and commissioning are commenced
	3.2	Operational parameters of individual components are tested and adjusted to conform to manufacturers' specifications
	3.3	Reciprocating engine operations are tested, first without, and then with fuel, and adjustments are completed, as required, with results recorded in accordance with workplace procedures and approving authority requirements
	3.4	Exhaust gases are analysed, in accordance with workplace procedures, industry practice and regulatory requirements
	3.5	Commissioning of stationary gas fuelled reciprocating engine is conducted without waste of materials or damage to apparatus and the surrounding environment or services using workplace sustainable energy procedures and practices
4 Completion and report installation and commissioning activities	4.1	Final check of installed gas fuelled reciprocating engine is made to verify compliance with regulatory and certification requirements
	4.2	Work area is cleared and materials are disposed of or are recycled, in accordance with legislation and workplace procedures
	4.3	Tools and equipment are cleaned, checked, serviced and stored, in accordance with manufacturers' recommendations and workplace procedures
	4.4	Work site is cleaned and made safe, in accordance with workplace procedures

- 4.5 Installed reciprocating engine equipment components, pipe work, flue, exhaust systems and accessories are documented and appropriate personnel are notified, in accordance with workplace procedures

Foundation Skills

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

Range of Conditions

Range is restricted to essential operating conditions and any other variables essential to the work environment.

Non-essential conditions may be found in the Companion Volume Implementation Guide.

Unit Mapping Information

This unit replaces and is equivalent to UEPMNT367A Install and commission stationary gas fuelled reciprocating engines.

Links

Companion Volume implementation guides are found in VETNet -
<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=1715b9fa-e7bd-441c-bb8d-cf22c9c825a8>

Assessment Requirements for UEPMNT367 Install and commission stationary gas fuelled reciprocating engines

Modification History

Release 1. This is the first release of this unit of competency in the UEP Generation Training Package.

Performance Evidence

Evidence required to demonstrate competence in this unit must be relevant to and satisfy all the requirements of the elements, performance criteria and range of conditions on at least two separate occasions and includes:

- applying Work, Health and Safety (WHS)/Occupational Health and Safety (OHS) requirements including:
 - hazard identification
 - identifying hazards
 - risk control measures
 - safe working practices
- commissioning stationary gas fuelled reciprocating engine
- communicating with personnel
- completing and reporting on installation and commissioning activities
- completing documentation
- determining permit to work requirements
- identifying safety and/or site arrangements including hazardous area requirements
- implementing legislation, industry standards, codes of practice and regulations
- installing stationary gas fuelled reciprocating engine
- interpreting technical and plans drawings related to plant and/or equipment locations and pipe work connections
- obtaining formal authority to proceed with installation and commissioning
- preparing to install and commission stationary gas fuelled reciprocating engines
- recording results from testing
- rectifying defects using tools and equipment
- securing, aligning and connecting plant, equipment, pipe work, components and accessories accurately
- testing pressure, repairing leaks and purging fuel train system to design test pressures
- undertaking compliance and safety inspections
- using manufacturers' specifications and manuals

Knowledge Evidence

Evidence required to demonstrate competence in this unit must be relevant to and satisfy all the requirements of the elements, performance criteria and range of conditions and includes knowledge of:

- commission and installation processes
- compliance and safety inspections
- documentation and reports
- gas fuelled reciprocating engine types and characteristics
- gas fuels
- legislation, industry standards, codes of practice and regulations
- manufacturers' specifications and manuals
- permit to work system
- potential defects
- pressure testing, repairing leaks and purging fuel train system to design test pressures
- safety and/or site arrangements including hazardous area requirements
- securement, alignment and connection of plant, equipment, pipe work, components and accessories
- stationary gas fuelled reciprocating engine plant and equipment drawings and plans
- tools and equipment
- WHS/OHS legislated requirements including:
 - emergency procedures
 - hazard identification
 - risk control measures
 - safe working practices
- workplace documentation
- workplace policies and procedures

Assessment Conditions

As a minimum, assessors must satisfy applicable regulatory requirements, which include requirements in the Standards for Registered Training Organisations current at the time of assessment.

As a minimum, assessment must satisfy applicable regulatory requirements, which include requirements in the Standards for Registered Training Organisations current at the time of assessment.

Assessment processes and techniques must be appropriate to the language, literacy and numeracy requirements of the work being performed and the needs of the candidate.

Assessment must occur in workplace operational situations. Where this is not appropriate, assessment must occur in simulated workplace operational situations that reflect workplace conditions.

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 personal protective equipment currently used in industry
- applicable documentation including workplace procedures, industry standards, equipment specifications, regulations, codes of practice and operation manuals.

Links

Companion Volume implementation guides are found in VETNet -
<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=1715b9fa-e7bd-441c-bb8d-cf22c9c825a8>

UEPMNT368 Repair and maintain stationary gas fuelled reciprocating engines

Modification History

Release 1. This is the first release of this unit of competency in the UEP Generation Training Package.

Application

This unit involves the skills and knowledge required to isolate, disconnect, repair, reconnect and undertake maintenance of stationary gas fuelled reciprocating engines. It does not include repairs to the internal mechanical components of the engine.

Maintenance includes the regular monitoring, inspection and verification of the safe and efficient operation of a power generation facility's stationary gas fuelled reciprocating engine.

Competency in this unit requires the ability to work safely to relevant industry standards when disconnecting, carrying out repairs and replacing fuel train components to given specifications. It also includes reconnecting the engine including pre-start tests, start-up, adjusting components and controls for safe and efficient operation and completing all required documentation. Individuals will, in general, work as a maintenance operative, in a power generation facility.

Power generation maintenance personnel are typically trained and authorised to receive permits to work.

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

Note: Workplace practices

The application of the skills and knowledge described in this unit of competency may require a licence or training permit to practice in the workplace, where work is carried out on gas and electrical installations. Additional and/or other conditions may apply under state and territory legislative and regulatory licensing requirements.

Pre-requisite Unit

CPCCWHS1001 Work safely in the construction industry

HLTAID001 Provide cardiopulmonary resuscitation

Competency Field

Maintenance

Unit Sector

Electricity generation

Elements and Performance Criteria

ELEMENTS

Elements describe the essential outcomes.

1 Prepare to repair and maintain gas fuelled reciprocating engines

PERFORMANCE CRITERIA

Performance criteria describe the performance needed to demonstrate achievement of the element.

- 1.1** Work, Health and Safety (WHS)/Occupational Health and Safety (OHS) procedures are identified and implemented, in accordance with workplace procedures
- 1.2** Health and safety risks are identified and risk control measures are followed, in accordance with workplace procedures
- 1.3** Safety hazards that have not previously been identified are noted, and risk control measures are implemented and followed, in accordance with workplace procedures
- 1.4** Formal authority to proceed with repair and maintenance work is obtained, in accordance with workplace procedures
- 1.5** Repair and maintenance work is sequenced, in accordance with workplace procedures
- 1.6** Nature and location of repair and maintenance work is determined from documentation, or appropriate personnel, to establish scope of work and assigned roles
- 1.7** Stationary gas fuelled reciprocating engine plant, equipment and component specifications and manufacturers' manuals are obtained
- 1.8** Material needed for repair and maintenance work is obtained, in accordance with workplace procedures and is checked against job requirements
- 1.9** Tools and equipment, including personal protective equipment and testing devices are obtained, in accordance with workplace procedures and are checked for correct operation and safety

2 Repair and maintain gas fuelled reciprocating

- 2.1** Regulatory and code of practice recording and reporting requirements are completed, in accordance with

engines	workplace procedures
2.2	Gas and electrical circuits, machines and/or power generation plant are checked prior to commencement and are recorded as being isolated and safe, in accordance with workplace procedures
2.3	Nature and possible cause of stationary gas fuelled reciprocating engine faults, or out of specification performance, are identified from defect reports or operational records
2.4	Fault finding using observation, measurement, calculations, comparison with normal system and component parameter values is undertaken
2.5	Faults beyond the scope of gas fuel train, ignition or fume exhaust work are identified and arrangements are made for authorised personnel to rectify faults
2.6	Stationary gas fuelled reciprocating engine is disconnected, to carry out maintenance and repairs, in accordance with workplace procedures
2.7	Components are removed or dismantled, where necessary, and parts are stored to protect them against loss or damage
2.8	Faulty components are rechecked and their fault status is reconfirmed
2.9	Materials required to rectify faults are obtained, in accordance with workplace procedures
2.10	Repair and maintenance work is carried out without waste of materials or damage to apparatus, circuits, the surrounding environment or services, in accordance with workplace procedures and sustainable energy principles and practices
2.11	Stationary gas fuelled reciprocating engine repair is tested, in accordance with workplace procedures
2.12	Stationary gas fuelled reciprocating engine is reassembled, reconnected and tested to ensure it is operating safely and that it complies with relevant workplace and legislative requirements
3 Complete and report on	3.1 Final check of stationary gas fuelled reciprocating engine is made to verify compliance with legislative and

repair and maintenance

certification requirements

- 3.2 Work area is cleared and materials are disposed of or recycled, in accordance with workplace procedures
- 3.3 Tools and equipment are cleaned, checked, serviced and stored, in accordance with manufacturers' recommendations and workplace procedures
- 3.4 Work site is cleaned and made safe, in accordance with workplace procedures
- 3.5 Maintenance and repair work is documented and appropriate personnel are notified, in accordance with workplace procedures

Foundation Skills

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

Range of Conditions

Range is restricted to essential operating conditions and any other variables essential to the work environment.

Non-essential conditions may be found in the Companion Volume Implementation Guide.

Unit Mapping Information

This unit replaces and is equivalent to UEPMT368A Repair and maintain stationary gas fuelled reciprocating engines.

Links

Companion Volume implementation guides are found in VETNet - <https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=1715b9fa-e7bd-441c-bb8d-cf22c9c825a8>

Assessment Requirements for UEPMNT368 Repair and maintain stationary gas fuelled reciprocating engines

Modification History

Release 1. This is the first release of this unit of competency in the UEP Generation Training Package.

Performance Evidence

Evidence required to demonstrate competence in this unit must be relevant to and satisfy all the requirements of the elements, performance criteria and range of conditions on at least two separate occasions and includes:

- applying Work, Health and Safety (WHS)/Occupational Health and Safety (OHS) requirements including:
 - emergency procedures
 - hazard identification
 - risk control measures
- communicating with personnel
- determining permit to work requirements
- disconnecting and reconnecting stationary gas fuelled reciprocating engine
- finding and rectifying faults
- preparing to repair and maintain stationary gas fuelled reciprocating engines
- repairing and maintaining stationary gas fuelled reciprocating engines including identifying faults completing and reporting on repair and maintenance work
- safe working practices implementing legislation, industry standards, codes of practice and regulations
- using manufacturers' specifications and manuals
- working with sustainable energy principles and practices

Knowledge Evidence

Evidence required to demonstrate competence in this unit must be relevant to and satisfy all the requirements of the elements, performance criteria and range of conditions and includes knowledge of:

- documentation and report requirements
- fault finding
- gas fuelled reciprocating engines
- gas fuels
- legislation, industry standards, codes of practice and regulations
- manufacturers' specifications and manuals

- permit to work system
- reconnection and disconnection of stationary gas fuelled reciprocating engines
- stationary gas fuelled reciprocating engine repair and maintenance
- sustainable energy principles and practices
- WHS/OHS legislated requirements including:
 - emergency procedures
 - hazard identification
 - risk control measures
 - safe working practices
- workplace documentation
- workplace policies and procedures

Assessment Conditions

As a minimum, assessors must satisfy applicable regulatory requirements, which include requirements in the Standards for Registered Training Organisations current at the time of assessment.

As a minimum, assessment must satisfy applicable regulatory requirements, which include requirements in the Standards for Registered Training Organisations current at the time of assessment.

Assessment processes and techniques must be appropriate to the language, literacy and numeracy requirements of the work being performed and the needs of the candidate.

Assessment must occur in workplace operational situations. Where this is not appropriate, assessment must occur in simulated workplace operational situations that reflect workplace conditions.

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 personal protective equipment currently used in industry
- applicable documentation including workplace procedures, industry standards, equipment specifications, regulations, codes of practice and operation manuals.

Links

Companion Volume implementation guides are found in VETNet -
<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=1715b9fa-e7bd-441c-bb8d-cf22c9c825a8>

UEPOPS203 Operate and monitor communications system

Modification History

Release 1. This is the first release of this unit of competency in the UEP Generation Training Package.

Application

This unit involves the skills and knowledge required to operate and monitor a communications system.

A communications system includes the various processes, both formal and informal, by which information is passed between personnel within a power generation facility itself and its clients, customers and stakeholders.

Competency in this unit requires the ability to plan work, operate and monitor a communications system and completion of all documentation. Individuals will, in general, work under supervision, in a power generation facility as an operator.

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

Note: Workplace practice

The application of the skills and knowledge described in this unit may require a licence or training permit to practice in the workplace where work is carried out on gas and electrical installations. Additional conditions may apply under state and territory legislative and regulatory licensing requirements.

Pre-requisite Unit

There are no prerequisite units.

Competency Field

Operations

Unit Sector

Electricity generation

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 Select and use equipment	1.1 An appropriate medium for communication is determined from the available options and is used, in accordance with workplace procedures 1.2 Communication procedures for opening, passing and receiving messages are implemented, in accordance with workplace procedures 1.3 Communication equipment is used, in accordance with workplace procedures, Work, Health and Safety (WHS)/Occupational Health and Safety (OHS) guidelines and manufacturers' specifications 1.4 Limitations of communication system are identified and alternatives are used, in accordance with workplace procedures
2 Monitor communication system	2.1 Data acquisition is monitored and assessed for quality and action is taken, in accordance with workplace procedures 2.2 Need for communication assistance is identified and addressed, in accordance with workplace procedures and job requirements
3 Complete documentation	3.1 Communication equipment problems and status is reported, in accordance with workplace procedures 3.2 Documentation is updated, in accordance with workplace procedures

Foundation Skills

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

Range of Conditions

Range is restricted to essential operating conditions and any other variables essential to the work environment.

Non-essential conditions may be found in the Companion Volume Implementation Guide.

Unit Mapping Information

This unit replaces and is equivalent to UEPOPS203B Operate and monitor communications system.

Links

Companion Volume implementation guides are found in VETNet -
<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=1715b9fa-e7bd-441c-bb8d-cf22c9c825a8>

Assessment Requirements for UEPOPS203 Operate and monitor communications system

Modification History

Release 1. This is the first release of this unit of competency in the UEP Generation Training Package.

Performance Evidence

Evidence required to demonstrate competence in this unit must be relevant to and satisfy all the requirements of the elements, performance criteria and range of conditions on at least two separate occasions and includes:

- applying Work, Health and Safety (WHS)/Occupational Health and Safety (OHS) requirements including:
 - emergency procedures
 - risk control measures
 - safe working practices
- communicating with personnel
- completing documentation
- monitoring communication system
- prioritising and acknowledging faulty communication
- selecting and using communications system equipment
- using interpersonal and communication system protocols and procedures
- utilising communication systems
- working with nonelectronic and electronic communication tools

Knowledge Evidence

Evidence required to demonstrate competence in this unit must be relevant to and satisfy all the requirements of the elements, performance criteria and range of conditions and includes knowledge of:

- communication systems
- interpersonal communication
- manufacturers' specifications and manuals
- use of nonelectronic and electronic communication tools
- WHS/OHS legislated requirements including:
 - emergency procedures
 - risk control procedures
 - safe working practices

- workplace documentation
- workplace policies and procedures

Assessment Conditions

As a minimum, assessors must satisfy applicable regulatory requirements, which include requirements in the Standards for Registered Training Organisations current at the time of assessment.

As a minimum, assessment must satisfy applicable regulatory requirements, which include requirements in the Standards for Registered Training Organisations current at the time of assessment.

Assessment processes and techniques must be appropriate to the language, literacy and numeracy requirements of the work being performed and the needs of the candidate.

Assessment must occur in workplace operational situations. Where this is not appropriate, assessment must occur in simulated workplace operational situations that reflect workplace conditions.

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 personal protective equipment currently used in industry
- applicable documentation including workplace procedures, industry standards, equipment specifications, regulations, codes of practice and operation manuals.

Links

Companion Volume implementation guides are found in VETNet -
<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=1715b9fa-e7bd-441c-bb8d-cf22c9c825a8>

UEPOPS205 Conduct minor mechanical maintenance

Modification History

Release 1. This is the first release of this unit of competency in the UEP Generation Training Package.

Application

This unit involves the skills and knowledge required to conduct a range of minor maintenance functions associated with mechanical equipment. Minor is defined as work that is of lesser seriousness or significance in mechanical maintenance.

Mechanical equipment in a power generation facility can include a variety of plant, machinery and power tools that may contain computers and sensors to monitor and enhance performance.

Competency in this unit requires the ability to plan work, conduct minor maintenance and complete work. Individuals will, in general, work as an operator in a power generation facility.

Power generation plant operators are typically trained and authorised to isolate, prepare plant and issue permits to work.

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

Note: Workplace practice

The application of the skills and knowledge described in this unit may require a licence or training permit to practice in the workplace, where work is carried out on gas and electrical installations. Additional conditions may apply under state and territory legislative and regulatory licensing requirements.

Pre-requisite Unit

There are no prerequisite units.

Competency Field

Operations

Unit Sector

Electricity generation

Elements and Performance Criteria

ELEMENTS

Elements describe the essential outcomes.

1 Plan and prepare for work

PERFORMANCE CRITERIA

Performance criteria describe the performance needed to demonstrate achievement of the element.

- 1.1** Mechanical equipment work requirements are identified and are confirmed with appropriate personnel or by site inspection, in accordance with workplace procedures
- 1.2** Work, Health and Safety (WHS)/Occupational Health and Safety (OHS) regulations, legislative requirements, industry standards, codes of practice, manufacturers' specifications, environmental obligations and workplace procedures are identified, applied and monitored
- 1.3** Resources are obtained and inspected for compliance with job specification, in accordance with workplace procedures
- 1.4** Plans, drawings and manuals are selected and used, in accordance with workplace procedures
- 1.5** Correct size, type and quantity of materials and components are obtained and inspected, in accordance with workplace procedures for compliance with job specification
- 1.6** Mechanical equipment work is sequenced and prioritised, in accordance with workplace procedures
- 1.7** Potential hazards are identified and risk control measures are selected and implemented, in accordance with workplace procedures
- 1.8** Work area is prepared, in accordance with workplace procedures

2 Perform minor mechanical maintenance

- 2.1** Isolations are confirmed, where appropriate, in accordance with workplace procedures
- 2.2** Minor mechanical equipment adjustments are performed, in accordance with workplace procedures, maintenance schedules and site requirements
- 2.3** Mechanical equipment faults are reported to appropriate personnel, in accordance with workplace procedures

3 Complete work

- 3.1 Mechanical equipment work is completed and appropriate personnel are notified, in accordance with workplace procedures
- 3.2 Work area is cleared of waste, cleaned, restored and secured, in accordance with workplace procedures
- 3.3 Tools and equipment are maintained and stored, in accordance with workplace procedures
- 3.4 Mechanical equipment work completion details are finalised, in accordance with workplace procedures

Foundation Skills

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

Range of Conditions

Range is restricted to essential operating conditions and any other variables essential to the work environment.

Non-essential conditions may be found in the Companion Volume Implementation Guide.

Unit Mapping Information

This unit replaces and is equivalent to UEPOPS205B Conduct minor mechanical maintenance.

Links

Companion Volume implementation guides are found in VETNet -
<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=1715b9fa-e7bd-441c-bb8d-cf22c9c825a8>

Assessment Requirements for UEPOPS205 Conduct minor mechanical maintenance

Modification History

Release 1. This is the first release of this unit of competency in the UEP Generation Training Package.

Performance Evidence

Evidence required to demonstrate competence in this unit must be relevant to and satisfy all the requirements of the elements, performance criteria and range of conditions on at least two separate occasions and includes:

- applying Work, Health and Safety (WHS)/Occupational Health and Safety (OHS) requirements including:
 - emergency procedures
 - risk control measures
 - safe working practices
- communicating with personnel
- completing minor mechanical work
- complying with legislation, industry standards, codes of practice and regulations
- complying with maintenance schedule
- conducting minor mechanical maintenance work
- documenting records
- performing isolations
- planning and preparing for minor mechanical work
- using equipment
- utilising mechanical maintenance techniques and procedures
- working with permit to work system

Knowledge Evidence

Evidence required to demonstrate competence in this unit must be relevant to and satisfy all the requirements of the elements, performance criteria and range of conditions and includes knowledge of:

- isolations
- legislation, industry standards, codes of practice and regulations
- maintenance schedules
- manufacturers' specifications and manuals
- mechanical maintenance techniques and procedures

- permit to work system
- record and documentation requirements
- WHS/OHS legislated requirements including:
 - emergency procedures
 - risk control measures
 - safe working practices
- workplace documentation
- workplace policies and procedures

Assessment Conditions

As a minimum, assessors must satisfy applicable regulatory requirements, which include requirements in the Standards for Registered Training Organisations current at the time of assessment.

As a minimum, assessment must satisfy applicable regulatory requirements, which include requirements in the Standards for Registered Training Organisations current at the time of assessment.

Assessment processes and techniques must be appropriate to the language, literacy and numeracy requirements of the work being performed and the needs of the candidate.

Assessment must occur in workplace operational situations. Where this is not appropriate, assessment must occur in simulated workplace operational situations that reflect workplace conditions.

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 personal protective equipment currently used in industry
- applicable documentation including workplace procedures, industry standards, equipment specifications, regulations, codes of practice and operation manuals.

Links

Companion Volume implementation guides are found in VETNet -

<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=1715b9fa-e7bd-441c-bb8d-cf22c9c825a8>

UEPOPS317 Operate and monitor fixed fire protection systems

Modification History

Release 1. This is the first release of this unit of competency in the UEP Generation Training Package.

Application

This unit involves the skills and knowledge required to operate, inspect and monitor fixed fire protection systems.

Fixed fire protection systems are engineered sets of components that work together to detect fires, alert occupants and extinguish fires. Fixed fire protection systems use a combination of dry chemicals and wet agents to suppress fires.

Competency in this unit requires the ability to plan work, operate fixed fire protection system plant, test fixed fire protection system plant, analyse fixed fire protection system plant faults, monitor and inspect fixed fire protection system plant and the completion of all documentation. Individuals will, in general, work under supervision, in a power generating facility as a fire systems operator.

Power generation plant operators are typically trained and authorised to isolate, prepare plant and issue permits to work.

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

Note: Workplace practice

The application of the skills and knowledge described in this unit may require a licence or training permit to practice in the workplace where work is carried out on gas and electrical installations. Additional conditions may apply under state and territory legislative and regulatory licensing requirements.

Pre-requisite Unit

There are no prerequisite units.

Competency Field

Operations

Unit Sector

Electricity generation

Elements and Performance Criteria

ELEMENTS

Elements describe the essential outcomes.

PERFORMANCE CRITERIA

Performance criteria describe the performance needed to demonstrate achievement of the element.

1 Plan and prepare work

- 1.1** Safety issues related to operating and monitoring fixed fire protection system plant are identified, in accordance with workplace procedures and Work, Health and Safety (WHS)/Occupational Health and Safety (OHS) regulations and legislative requirements
- 1.2** Work requirements are identified, in accordance with workplace procedures, from appropriate personnel and documentation
- 1.3** Documentation to determine fixed fire protection system plant status is assessed and evaluated, in accordance with workplace procedures
- 1.4** Inspection and field preparations for fixed fire protection system plant service are carried out, in accordance with workplace procedures and manufacturers' recommendations
- 1.5** Fixed fire protection system plant operational prerequisites are established, in accordance with workplace procedures and manufacturers' recommendations
- 1.6** Sequence for recommissioning of fixed fire protection system plant is determined, in accordance with workplace procedures and site requirements

2 Operate fixed fire protection system plant

- 2.1** Fixed fire protection system plant is operated, in accordance with workplace procedures and manufacturers' operating recommendations
- 2.2** Fixed fire protection system plant is monitored and observed, in accordance with workplace procedures, to detect deviations from normal operating conditions
- 2.3** Corrective actions are taken to rectify fixed fire protection system plant abnormalities, in accordance with workplace procedures and manufacturers' recommendations

3 Test fixed fire protection

- 3.1** Operational tests are performed, in accordance with

system plant operation		workplace procedures
	3.2	Fixed fire protection system plant is observed for correct operational response, in accordance with workplace procedures and manufacturers' recommendations
	3.3	Corrective action is taken, in accordance with workplace procedures
	3.4	Fixed fire protection system plant is returned to required operational status upon completion of testing, in accordance with workplace procedures
4 Analyse fixed fire protection system plant faults	4.1	Causes of abnormal fixed fire protection systems plant operating conditions are identified, in accordance with workplace procedures, and by analysing technical and operational information
	4.2	Corrective action is taken, in accordance with workplace procedures
	4.3	Fixed fire protection system plant integrity and personnel safety are maintained, in accordance with workplace procedures, and in consultation with appropriate personnel and technical and operational documentation
5 Monitor and inspect fixed fire protection system plant	5.1	Fixed fire protection system plant to be monitored and/or inspected is physically identified, in accordance with workplace procedures
	5.2	Fixed fire protection system plant is monitored and/or inspected, in accordance with workplace procedures, for normal operation or to detect deviations
	5.3	Corrective action is taken, in accordance with workplace procedures
	5.4	Appropriate personnel are notified when defects are detected, in accordance with workplace procedures
6 Complete documentation	6.1	Fixed fire protection system plant problems, movements, and status are reported, in accordance with workplace procedures
	6.2	Documentation is updated, in accordance with workplace procedures

Foundation Skills

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

Range of Conditions

Range is restricted to essential operating conditions and any other variables essential to the work environment.

Non-essential conditions may be found in the Companion Volume Implementation Guide.

Unit Mapping Information

This unit replaces and is equivalent to UEPOPS317B Operate and monitor fixed fire protection systems.

Links

Companion Volume implementation guides are found in VETNet -
<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=1715b9fa-e7bd-441c-bb8d-cf22c9c825a8>

Assessment Requirements for UEPOPS317 Operate and monitor fixed fire protection systems

Modification History

Release 1. This is the first release of this unit of competency in the UEP Generation Training Package.

Performance Evidence

Evidence required to demonstrate competence in this unit must be relevant to and satisfy all the requirements of the elements, performance criteria and range of conditions on at least two separate occasions and includes:

- analysing fixed fire protection system plant faults
- applying Work, Health and Safety (WHS)/Occupational Health and Safety (OHS) requirements including:
 - emergency procedures
 - risk control measures
 - safe work practices
- communicating with personnel
- completing documentation
- confirming operational status of firefighting and fire prevention equipment
- implementing legislation, industry standards, codes of practice and regulations
- interpreting manufacturers' specifications and manuals
- monitoring and inspecting fixed fire protection system plant operation
- operating fixed fire protection system plant
- preparing and planning work
- testing fixed fire protection system plant operationally

Knowledge Evidence

Evidence required to demonstrate competence in this unit must be relevant to and satisfy all the requirements of the elements, performance criteria and range of conditions and includes knowledge of:

- fire protection system testing
- fire suppression systems
- legislation, industry standards, codes of practice and regulations
- manufacturers' specifications and manuals
- operational status of firefighting and fire prevention equipment
- WHS/OHS legislated requirements including:

- emergency procedures
- risk control measures
- safe work practices
- workplace documentation including reports, records and logs
- workplace policies and procedures

Assessment Conditions

As a minimum, assessors must satisfy applicable regulatory requirements, which include requirements in the Standards for Registered Training Organisations current at the time of assessment.

As a minimum, assessment must satisfy applicable regulatory requirements, which include requirements in the Standards for Registered Training Organisations current at the time of assessment.

Assessment processes and techniques must be appropriate to the language, literacy and numeracy requirements of the work being performed and the needs of the candidate.

Assessment must occur in workplace operational situations. Where this is not appropriate, assessment must occur in simulated workplace operational situations that reflect workplace conditions.

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 personal protective equipment currently used in industry
- applicable documentation including workplace procedures, industry standards, equipment specifications, regulations, codes of practice and operation manuals.

Links

Companion Volume implementation guides are found in VETNet -
<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=1715b9fa-e7bd-441c-bb8d-cf22c9c825a8>

UEPOPS336 Manage, operate and monitor a gas turbine unit

Modification History

Release 1. This is the first release of this unit of competency in the UEP Generation Training Package.

Application

This unit involves the skills and knowledge required to undertake the management of an in-service gas turbine unit.

A gas turbine is an internal combustion engine that converts natural gas or other liquid fuels to mechanical energy.

Competency in this unit requires the ability to plan work, operate gas turbine plant, test gas turbine plant, analyse gas turbine plant faults, monitor gas turbine plant and complete all documentation. Individuals will, in general, work as a frontline manager or supervisor, in a power generation facility.

Power generation plant operators are typically trained and authorised to isolate, prepare plant and issue permits to work.

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

Note: Workplace practice

The application of the skills and knowledge described in this unit may require a licence or training permit to practice in the workplace where work is carried out on gas and electrical installations. Additional conditions may apply under state and territory legislative and regulatory licensing requirements.

Pre-requisite Unit

There are no prerequisite units.

Competency Field

Operations

Unit Sector

Electricity generation

Elements and Performance Criteria

ELEMENTS

Elements describe the essential outcomes.

PERFORMANCE CRITERIA

Performance criteria describe the performance needed to demonstrate achievement of the element.

1 Plan and prepare work

- 1.1 Safety issues related to managing, operating and monitoring gas turbine plant are identified in accordance with workplace procedures and Work, Health and Safety (WHS)/Occupational Health and Safety (OHS) regulations and legislative requirements
- 1.2 Work requirements are identified, in accordance with workplace procedures, from appropriate personnel and documentation
- 1.3 Preoperational checks are carried out on gas turbine plant, in accordance with workplace procedures, manufacturer s' recommendations and site requirements

2 Operate gas turbine plant

- 2.1 Output is adjusted to achieve required gas turbine operating conditions and demand, in accordance with workplace procedures
- 2.2 Gas turbine plant is operated within limits of its' design, in accordance with workplace procedures
- 2.3 Gas turbine plant is monitored and observed, in accordance with workplace procedures, to detect deviations from operating conditions
- 2.4 Corrective actions are taken to rectify gas turbine plant abnormalities, in accordance with workplace procedures and manufacturers' recommendations

3 Test gas turbine plant operation

- 3.1 Operational tests are performed, in accordance with workplace procedures
- 3.2 Gas turbine plant is observed for correct operational response, in accordance with workplace procedures
- 3.3 Corrective action is taken when response does not meet with documentation, gas turbine plant integrity or personnel safety requirements
- 3.4 Gas turbine plant is returned to required operational status upon completion of testing, in accordance with workplace procedures

4 Analyse gas turbine plant faults	4.1	Causes of abnormal gas turbine plant operating conditions are identified, in accordance with workplace procedures, and by analysing technical and operational information
	4.2	Corrective action is taken, in accordance with workplace procedures
	4.3	Gas turbine plant integrity and personnel safety is maintained, in accordance with workplace procedures, and in consultation with appropriate personnel and technical and operational documentation
	4.4	Appropriate personnel are notified, in accordance with workplace procedures, when defects are detected
5 Monitor gas turbine plant	5.1	Gas turbine plant to be monitored is identified, in accordance with workplace procedures
	5.2	Gas turbine plant is monitored, in accordance with workplace procedures, for normal operation or to detect deviations
	5.3	Appropriate personnel are notified, in accordance with workplace procedures, when defects are detected
6 Complete documentation	6.1	Gas turbine plant problems, movements, and status is reported, in accordance with workplace procedures
	6.2	Documentation is updated, in accordance with workplace procedures

Foundation Skills

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

Range of Conditions

Range is restricted to essential operating conditions and any other variables essential to the work environment.

Non-essential conditions may be found in the Companion Volume Implementation Guide.

Unit Mapping Information

This unit replaces and is equivalent to UEPOPS336B Manage, operate and monitor a gas turbine

unit.

Links

Companion Volume implementation guides are found in VETNet -

<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=1715b9fa-e7bd-441c-bb8d-cf22c9c825a8>

Assessment Requirements for UEPOPS336 Manage, operate and monitor a gas turbine unit

Modification History

Release 1. This is the first release of this unit of competency in the UEP Generation Training Package.

Performance Evidence

Evidence required to demonstrate competence in this unit must be relevant to and satisfy all the requirements of the elements, performance criteria and range of conditions on at least two separate occasions and includes:

- analysing gas turbine plant faults using data analysis techniques and tools
- applying Work, Health and Safety (WHS)/Occupational Health and Safety (OHS) requirements including:
 - emergency procedures
 - risk control measures
 - safe working practices
- communicating with personnel
- completing documentation
- identifying gas turbine plant status
- implementing legislation, industry standards, codes of practice and regulations
- interpreting manufacturers' specifications and manuals
- monitoring gas turbine plant operations
- organising resources
- planning work
- preparing and operating gas turbine plant and/or equipment
- recognising and responding to abnormal gas turbine plant operating conditions
- testing gas turbine plant operationally using diagnostic and test techniques
- working with permit to work system

Knowledge Evidence

Evidence required to demonstrate competence in this unit must be relevant to and satisfy all the requirements of the elements, performance criteria and range of conditions and includes knowledge of:

- gas turbine plant and equipment, its location and operating parameters gas turbine plant generator types and characteristics including:
 - system components and their interaction

- gas turbine operational processes
- gas turbine plant status
- legislation, industry standards, codes of practice and regulations
- manufacturers' specifications and manuals
- permit to work system
- typical arrangements of power production
- WHS/OHS legislated requirements including:
 - emergency procedures
 - risk control measures
 - safe working practices
- workplace documentation
- workplace policies and procedures

Assessment Conditions

As a minimum, assessors must satisfy applicable regulatory requirements, which include requirements in the Standards for Registered Training Organisations current at the time of assessment.

As a minimum, assessment must satisfy applicable regulatory requirements, which include requirements in the Standards for Registered Training Organisations current at the time of assessment.

Assessment processes and techniques must be appropriate to the language, literacy and numeracy requirements of the work being performed and the needs of the candidate.

Assessment must occur in workplace operational situations. Where this is not appropriate, assessment must occur in simulated workplace operational situations that reflect workplace conditions.

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 personal protective equipment currently used in industry
- applicable documentation including workplace procedures, industry standards, equipment specifications, regulations, codes of practice and operation manuals.

Links

Companion Volume implementation guides are found in VETNet -

<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=1715b9fa-e7bd-441c-bb8d-cf22c9c825a8>

UEPOPS347 Operate and monitor supervisory, control and data acquisition systems

Modification History

Release 1. This is the first release of this unit of competency in the UEP Generation Training Package.

Application

This unit involves the skills and knowledge required to undertake monitoring and operation of screen based Supervisory, Control and Data Acquisition (SCADA) systems.

SCADA is a control system that uses computers, networked data communications and graphic interfaces. It may also use other peripheral devices to interface with process plant and/or machinery in power generation facilities.

Competency in this unit requires the ability to operate SCADA, monitor and interpret information and enhance screen display. Individuals will, in general, work under supervision, in a power generation facility as an operator.

Power generation plant operators are typically trained and authorised to isolate, prepare plant and issue permits to work.

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

Note: Workplace practice

The application of the skills and knowledge described in this unit may require a licence or training permit to practice in the workplace where work is carried out on gas and electrical installations. Additional conditions may apply under state and territory legislative and regulatory licensing requirements.

Pre-requisite Unit

There are no prerequisite units.

Competency Field

Operations

Unit Sector

Electricity generation

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 Operate SCADA screen displays

- 1.1 Safety issues related to operating and monitoring a Supervisory Control and Data Acquisition (SCADA) system are identified, in accordance with workplace procedures and Work, Health and Safety (WHS)/Occupational Health and Safety (OHS) regulations and legislative requirements
- 1.2 SCADA system requirements are identified, in accordance with workplace procedures, from appropriate personnel and documentation
- 1.3 Screen displays and applications are identified and retrieved, in accordance with workplace procedures and SCADA system requirements
- 1.4 Functions available from the screen based equipment are identified and selected, in accordance with workplace procedures and SCADA system requirements
- 1.5 Functions available from screen based equipment are utilised, in accordance with workplace procedures and SCADA system requirements

2 Monitor and interpret SCADA information

- 2.1 Screen displays are monitored, in accordance with workplace procedures and SCADA system requirements
- 2.2 Abnormal values or faults are identified by analysis of information obtained from screen displays, in accordance with workplace procedures and SCADA system requirements
- 2.3 Corrective action is taken, in accordance with workplace procedures and SCADA system requirements
- 2.4 Alarms are acknowledged, prioritised and responded to in accordance with workplace procedures and SCADA system requirements

3 Enhance SCADA screen display

- 3.1 Requirements for the development of new screen displays are identified and confirmed, in accordance with workplace procedures and SCADA system requirements

- 3.2** New screen displays are researched, assessed and confirmed with appropriate personnel, in accordance with workplace procedures and SCADA system requirements

Foundation Skills

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

Range of Conditions

Range is restricted to essential operating conditions and any other variables essential to the work environment.

Non-essential conditions may be found in the Companion Volume Implementation Guide.

Unit Mapping Information

This unit replaces and is equivalent to UEPOPS347B Operate and monitor supervisory, control and data acquisition systems.

Links

Companion Volume implementation guides are found in VETNet -
<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=1715b9fa-e7bd-441c-bb8d-cf22c9c825a8>

Assessment Requirements for UEPOPS347 Operate and monitor supervisory, control and data acquisition systems

Modification History

Release 1. This is the first release of this unit of competency in the UEP Generation Training Package.

Performance Evidence

Evidence required to demonstrate competence in this unit must be relevant to and satisfy all the requirements of the elements, performance criteria and range of conditions on at least two separate occasions and includes:

- applying legislation, industry standards, codes of practice and regulations
- applying Work, Health and Safety (WHS)/Occupational Health and Safety (OHS) requirements including:
 - emergency procedures
 - risk control measures
 - safe work practices
- communicating with personnel
- enhancing screen display
- managing screen based equipment including the full range of applications
- monitoring and interpreting information from Supervisory Control and Data Acquisition (SCADA)
- operating screen displays
- responding and prioritising response to alarms
- using manufacturers' specifications and manuals

Knowledge Evidence

Evidence required to demonstrate competence in this unit must be relevant to and satisfy all the requirements of the elements, performance criteria and range of conditions and includes knowledge of:

- alarm systems
- Distributed Control System (DCS)
- legislation, industry standards, codes of practice and regulations
- manufacturers' specifications and manuals
- remote telemetry and data acquisition
- Supervisory Control and Data Acquisition (SCADA) system
- Windows operating system
- WHS/OHS legislated requirements including:

- emergency procedures
- risk control measures
- safe work practices
- workplace documentation
- workplace policies and procedures

Assessment Conditions

As a minimum, assessors must satisfy applicable regulatory requirements, which include requirements in the Standards for Registered Training Organisations current at the time of assessment.

As a minimum, assessment must satisfy applicable regulatory requirements, which include requirements in the Standards for Registered Training Organisations current at the time of assessment.

Assessment processes and techniques must be appropriate to the language, literacy and numeracy requirements of the work being performed and the needs of the candidate.

Assessment must occur in workplace operational situations. Where this is not appropriate, assessment must occur in simulated workplace operational situations that reflect workplace conditions.

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 personal protective equipment currently used in industry
- applicable documentation including workplace procedures, industry standards, equipment specifications, regulations, codes of practice and operation manuals.

Links

Companion Volume implementation guides are found in VETNet -
<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=1715b9fa-e7bd-441c-bb8d-cf22c9c825a8>

UETTDREL14 Working safely near live electrical apparatus as a non-electrical worker

Modification History

Release 1. This is the first release of this unit of competency in the UET Transmission, Distribution and Rail Sector Training Package.

Application

This unit covers compliance with working safely up to the defined safe approach distance (SAD) near energised electrical apparatus, including electrical powerlines, for non-electrical workers.

It includes work functions that may be performed, such as vegetation control, scaffolding, rigging, painting and/or any other activity that requires working safely and complying with requirements and/or established procedures near live electrical apparatus by a non-electrical worker. Also included is the preparation of risk assessment control measures that encompass job safety assessment. It does not include any work that is or may be performed by other competent operatives within the defined safe working zone. The defined safe working zone is that so defined by relevant state or territory regulatory agencies/bodies, local government legislation, industry bi-partite bodies, guidelines/codes of practices or other related requirements for safe work and access near live electrical and mechanical apparatus.

The application of the skills and knowledge described in this unit may require a licence/registration to practice in the workplace subject to regulations for undertaking of electrical work.

Other conditions may apply under state and territory legislative and regulatory licencing requirements which must be confirmed prior to commencing this unit.

Pre-requisite Unit

There are no prerequisite competencies to this unit.

Competency Field

Entry Level Cross Discipline

Unit Sector

Not applicable.

Elements and Performance Criteria

ELEMENTS

Elements describe the essential outcomes.

1 Prepare to work safely near live electrical apparatus as non-electrical worker

PERFORMANCE CRITERIA

Performance criteria describe the performance needed to demonstrate achievement of the element.

- 1.1** Instructions related to the work to be performed safely near live electrical apparatus as non-electrical worker are received and confirmed
- 1.2** Relevant requirements and established procedures to be followed and relevant personnel to be communicated with for the work to be performed are identified
- 1.3** Work health and safety (WHS)/occupational health and safety (OHS) policies and procedures to be followed for the work to be performed are received and confirmed
- 1.4** Suggestions to assist in meeting the safety requirements for working near live electrical apparatus as a non-electrical worker are made to others involved in the work
- 1.5** Hazards are identified, WHS/OHS risks assessed and control measures prioritised, implemented and monitored, including emergency exits kept clear, according to established procedures
- 1.6** Scope of responsibility and process of relevant work permit(s) issue are identified, received and confirmed according to requirements and established procedures
- 1.7** Relevant responsibility associated with first aid, safety observers and/or other related work safety procedures at the worksite are identified in accordance with requirements and established procedures to ensure safety measures are followed in the instance of an incident
- 1.8** Processes for identifying and reporting client issues to appropriate personnel are identified in accordance with industry/community standards
- 1.9** Site and the work schedule to be prepared are confirmed according to given instructions for a quality outcome and to minimise risk and damage to property, commerce, stock and individuals in accordance and established procedures

	1.10 Electricity infrastructure assets, related voltages and requirements for working safely near live electrical apparatus as non-electrical worker are identified 1.11 SAD, including any zones thereof that may apply, as defined in industry guidelines, requirements and/or established procedures for the intended work are confirmed
2 Carry out work safely near live electrical apparatus as non-electrical worker	2.1 WHS/OHS principles and practices to reduce the incidents of accidents are identified in accordance with given instructions, requirements and/or established procedures 2.2 Working safely and complying with all safety requirements for working near live electrical apparatus as a non-electrical worker are followed in accordance with given instructions and established routines/procedures 2.3 Processes for monitoring and reporting/referring hazards and WHS/OHS risks to immediate authorised personnel for directions according to established procedures are followed 2.4 Non-routine events are referred to immediate authorised personnel for directions according to established procedures 2.5 Unexpected events associated with working safely near live electrical apparatus as a non-electrical worker are responded to using acquired known solutions and skills related to routine procedures to ensure work instructions and established procedures are met
3 Complete work safely near live electrical apparatus as non-electrical worker	3.1 Work schedule and anomalies for completion and checking of the work are reported to authorised personnel in accordance with established procedures 3.2 Processes for reporting to accidents and/or incidents authorised personnel are confirmed in accordance with established procedures 3.3 Requirements for returning work permits and/or access authorisation permits are confirmed 3.4 Appropriate personnel are notified of work completion according to established procedures

- 3.5 Works completion records and report forms/data sheets are completed accurately in accordance with given instructions and established procedures

Foundation Skills

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

Range of Conditions

Range is restricted to essential operating conditions and any other variables essential to the work environment.

Non-essential conditions may be found in the Companion Volume Implementation Guide.

Unit Mapping Information

This unit replaces and is equivalent to UETTDREL14A Working safely near live electrical apparatus as a non-electrical worker.

Links

UET Training Package Companion Volume Implementation Guide is found in VETNet - <https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=229bace1-b7bc-4653-9300-dffb13ecfad7>

Assessment Requirements for UETTDREL14 Working safely near live electrical apparatus as a non-electrical worker

Modification History

Release 1. This is the first release of this unit of competency in the UET Transmission, Distribution and Rail Sector 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 two separate occasions and include:

- applying relevant work health and safety (WHS)/occupational health and safety (OHS) requirements, including the use of risk control measures
- applying sustainable energy principles and practices
- completing all of the following:
 - confirming the safe working zone for safe work and access near live electrical apparatus
 - identifying relevant technical standards, acts, regulations and codes/guidelines
 - identifying established (enterprise) procedures
- completing all of the following:
 - confirming the principles of electricity, the three phase power system, electric shock and resuscitation, and power system
 - recognising aerial voltage systems
 - identifying low voltage (LV) aerial circuits
 - identifying high voltage (HV)
- identifying all of the following:
 - procedures in the event of an incident
 - events constituting an incident
 - procedures for responding to incidents
 - hazard and risk assessment procedure
 - conduct worksite hazard assessment
 - confirmation of essential components of hazard assessment checks
 - applying hazard identification in electrical work
 - confirmation of the basic safety principles for work on electrical works
 - hazard identification and risk assessment
 - hazard control
 - risk assessment and management (job safety analysis (JSA)) control
 - the hierarchy of controls, including evaluation, worksite hazard and risk assessment checklist, pre-job hazard assessment check (HAC) items, planned inspection and

- pre-work hazard risk assessment form
- identifying all of the following:
 - use of work permits and/or authorisation permits
 - sustainable energy principles and practices
 - possible effects of weather conditions on working near electrical apparatus as a non-electrical worker
- dealing with unplanned events on at least one (1) occasion.

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:

- basic electrical principles encompassing:
 - fundamental units - basic measurement of units
 - electrical characteristics of material - characteristics of solid materials; insulators; and terms electrical charge, electrical current and electromagnetic forces
 - nature of electrical current and change - basic rules of electrical current flow
 - sources of electricity - basic fundamentals of alternating current (a.c.), direct current (d.c.) and single electromagnetic field source (induction)
 - simple circuits - circuit protection devices used on the network; effects of an open circuit, a closed circuit and a short circuit and earthing – using the ground as a form of conductor to return current back to a source
 - resistance - relationship between voltage and current and resistance (Ohms Law)
 - effects of current - physiological effects and protection for physiological effects; basic principle by which electrical current can result in the production of heat, light and electromagnetic fields and typical effects of current
 - three phase and single-phase power systems - star delta configurations, three phase star connections, relationship between line and phase voltages, three phase 4 wire systems - purpose of the neutral
 - consequences of short circuits - arc flash, electricity supply industry (ESI) protection schemes
 - magnetism - magnetic field patterns, concepts of electromagnetism, effects of electromagnetism and magnetic fields around straight conductors
 - hazards encountered in an ESI environment - touch and step potentials, electric shock, fire, chemicals, falls and safe use of tools and equipment
- transmission, distribution and rail power systems encompassing:
 - relationship between the transmission, distribution and rail/tram system within an overall power system - different organisations responsible for generation, transmission, distribution and rail/tram; how they correlate and their functions
 - characteristics of a transmission, distribution and rail system - principal components; typical voltage levels and methods of transmission and distribution, including grid type transmission systems, radial, parallel and ring main feeders
 - relationship between an overhead and underground supply systems within an overall

- power system - advantages/disadvantages and applications
- single line drawings and layouts - drawings and layouts of transmission and distribution systems, including radial, parallel and ring main feeders and the HV equipment associated with substations
- fundamentals for working safely near live electrical apparatus for non-electrical worker encompassing:
 - standards, guidelines/codes of practice, Commonwealth/state/territory/local government legislation, supply authority regulations and/or enterprise requirements, including relevant certification and licensing applicable to working safely up to the defined safe working zone near energised electrical apparatus, including electrical powerlines, for non-electrical worker
 - definitions of terminologies - 'safe working zone', 'risk assessment', 'safe approach distances (SAD) zones', 'safe working distances', 'work permits', 'access authorisation permits', 'technical standards', 'isolation procedures' and 'compliance requirements'
 - WHS/OHS policies and procedures for working safely - duties of a safety observer, permit to work systems and isolation procedures, safe application of different types of tools and equipment and operation of mobile plant and machinery (e.g. elevated work platform (EWP)) near live electrical apparatus
 - techniques and precautions in undertaking different work functions and working safely up to the defined safe working zone near energised electrical apparatus (including electrical powerlines) for non-electrical worker (work functions that may be performed include vegetation control, scaffolding, rigging, painting and/or any other activity that requires working safely near live electrical apparatus by a non-electrical worker).

Assessment Conditions

Assessors must hold credentials specified within the Standards for Registered Training Organisations current at the time of assessment.

Assessment must satisfy the Principles of Assessment and Rules of Evidence and all regulatory requirements included within the Standards for Registered Training Organisations current at the time of assessment.

Assessment must occur in workplace operational situations where it is appropriate to do so; where this is not appropriate, assessment must occur in simulated conditions involving realistic and authentic activities that replicate operational 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 personal protective equipment (PPE) currently used in industry
- applicable documentation, including workplace procedures, equipment specifications, regulations, codes of practice and operation manuals.

Links

UET Training Package Companion Volume Implementation Guide is found in VETNet - <https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=229bace1-b7bc-4653-9300-dffb13ecfad7>

UEG Gas Industry Training Package

Modification History

Not applicable.

Credit Arrangements

At the time of endorsement of this Training Package no national credit arrangements exist.

Links

Companion Volume Implementation Guides are found in VETNet -
<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=6a6c032e-ffcb-4f3d-8063-415efbd261e8>

UEGSS00007 Basic Gas Supply Industry Work Activities Skill Set

Modification History

Release 1. New Skill Set

This Skill Set replaces and is equivalent to UEGSS00001 Basic gas supply industry work activities.

Description

The Skill Set is targeted at persons entering the gas supply industry and covers the gas supply industry, work health and safety (WHS), and environmental requirements and work activities.

Pathways Information

The UEGSS00007 Basic Gas Supply Industry Work Activities Skill Set is part of the UEG Gas Industry Training Package.

Licensing/Regulatory Information

Not applicable.

Skill Set Requirements

A total of 4 units of competency must be attained.

UEGNSG005	Prepare to work in the gas industry
UEGNSG132	Carry out basic work activities in a gas industry work environment
UEGNSG140	Apply environmental policies and procedures in the utilities industry
UEGNSG141	Apply workplace health and safety regulations, codes and practices in the gas supply industry

Target Group

The Skill Set is targeted at persons entering the gas supply industry and covers the gas supply industry, work health and safety (WHS), and environmental requirements and basic work activities.

Suggested words for Statement of Attainment

This UEGSS00007 Basic Gas Supply Industry Work Activities Skill Set from the UEG Gas Industry Training Package meets the industry requirements for individuals who work as a gas supply industry worker.

Custom Content Section

Not applicable.

UEGSS00008 Construct and Lay Steel Gas Distribution Mains Skill Set

Modification History

Release 2. This is the second release of this Skill Set.

- Superseded unit updated: UEGNSG211 Construct and lay steel gas distribution pipelines

Release 1. New Skill Set

This Skill Set replaces and is equivalent to UEGSS00002 Construct and lay steel gas distribution mains.

Description

This Skill Set is for individuals who construct and lay steel gas distribution mains.

Pathways Information

The UEGSS00008 Construct and Lay Steel Gas Distribution Mains Skill Set is part of the UEG Gas Industry Training Package.

Entry Requirements

It is essential that anyone undertaking this Skill Set already hold or concurrently complete the following units of competency or equivalent:

UEGNSG005	Prepare to work in the gas industry
UEGNSG132	Carry out basic work activities in a gas industry work environment
UEGNSG140	Apply environmental policies and procedures in the utilities industry
UEGNSG141	Apply workplace health and safety regulations, codes and practices in the gas supply industry

Licensing/Regulatory Information

Not applicable.

Skill Set Requirements

A total of **2 units of competency** must be attained.

UEGNSG134	Establish a utilities infrastructure work site
UEGNSG211	Construct and lay steel gas distribution pipelines

Target Group

The Skill Set is targeted at persons who construct and lay steel gas distribution mains work activities.

Suggested words for Statement of Attainment

This UEGSS00008 Construct and Lay Steel Gas Distribution Mains Skill Set from the UEG Gas Industry Training Package meets the industry requirements for individuals who construct and lay steel gas distribution mains.

Custom Content Section

Not applicable.

UEGSS00009 Construct and Lay Nylon or PVC Gas Distribution Mains Skill Set

Modification History

Release 1. New Skill Set

This Skill Set replaces and is equivalent to UEGSS00003 Construct and lay nylon or PVC gas distribution mains.

Description

This Skill Set is for individuals who construct and lay nylon or polyvinyl chloride (PVC) gas distribution mains.

Pathways Information

The UEGSS00009 Construct and Lay Nylon or PVC Gas Distribution Mains Skill Set is part of the UEG Gas Industry Training Package.

Entry Requirements

It is essential that anyone undertaking this Skill Set already hold or concurrently complete the following units of competency or equivalent:

UEGNSG005	Prepare to work in the gas industry
UEGNSG132	Carry out basic work activities in a gas industry work environment
UEGNSG140	Apply environmental policies and procedures in the utilities industry
UEGNSG141	Apply workplace health and safety regulations, codes and practices in the gas supply industry

Licensing/Regulatory Information

Not applicable.

Skill Set Requirements

A total of 2 units of competency must be attained.

UEGNSG222	Construct and lay nylon or PVC gas distribution mains

UEGNSG134 Establish a utilities infrastructure work site

Target Group

The skill set is targeted at persons who construct and lay nylon or PVC gas distribution mains work activities.

Suggested words for Statement of Attainment

This UEGSS00009 Construct and Lay Nylon or PVC Gas Distribution Mains Skill Set from the UEG Gas Industry Training Package meets the industry requirements for individuals who construct and lay nylon or PVC gas distribution mains.

Custom Content Section

Not applicable.

UEGSS00010 Construct and Lay Polyethylene Gas Distribution Mains Skill Set

Modification History

Release 2. This is the second release of this Skill Set.

- Superseded unit updated: UEGNSG209 Construct and lay polyethylene gas distribution mains

Release 1. New Skill Set

This Skill Set replaces and is equivalent to UEGSS00004 Construct and lay Polyethylene gas distribution mains.

Description

This Skill Set is for individuals who construct and lay polyethylene gas distribution mains.

Pathways Information

The UEGSS00010 Construct and Lay Polyethylene Gas Distribution Mains Skill Set is part of the UEG Gas Industry Training Package.

Entry Requirements

It is essential that anyone undertaking this Skill Set already hold or concurrently complete the following units of competency or equivalent:

UEGNSG005	Prepare to work in the gas industry
UEGNSG132	Carry out basic work activities in a gas industry work environment
UEGNSG140	Apply environmental policies and procedures in the utilities industry
UEGNSG141	Apply workplace health and safety regulations, codes and practices in the gas supply industry

Licensing/Regulatory Information

Not applicable.

Skill Set Requirements

A total of **2 units of competency** must be attained.

UEGNSG134	Establish a utilities infrastructure work site
UEGNSG209	Construct and lay polyethylene gas distribution mains

Target Group

The skill set is targeted at persons who construct and lay polyethylene gas distribution mains work activities.

Suggested words for Statement of Attainment

This UEGSS00010 Construct and Lay Polyethylene Gas Distribution Mains Skill Set from the UEG Gas Industry Training Package meets the industry requirements for individuals who construct and lay polyethylene gas distribution mains.

Custom Content Section

Not applicable.

UEGSS00011 Construct, Lay and Connect a Gas Distribution Service to Steel Mains Skill Set

Modification History

Release 1. New Skill Set

This Skill Set replaces and is equivalent to UEGSS00005 Construct, lay and connect a gas distribution service to steel mains.

Description

This Skill Set is for individuals who construct, lay and connect a gas distribution service to steel mains.

Pathways Information

The UEGSS00011 Construct, Lay and Connect a Gas Distribution Service to Steel Mains Skill Set is part of the UEG Gas Industry Training Package.

Entry Requirements

It is essential that anyone undertaking this Skill Set already hold or concurrently complete the following units of competency or equivalent:

UEGNSG005	Prepare to work in the gas industry
UEGNSG132	Carry out basic work activities in a gas industry work environment
UEGNSG140	Apply environmental policies and procedures in the utilities industry
UEGNSG141	Apply workplace health and safety regulations, codes and practices in the gas supply industry

Licensing/Regulatory Information

Not applicable.

Skill Set Requirements

A total of 2 units of competency must be attained.

UEGNSG213	Construct, lay and connect a gas distribution service to a steel main

UEGNSG134 Establish a utilities infrastructure work site

Target Group

The Skill Set is targeted at persons who construct, lay and connect a gas distribution service to steel mains work activities.

Suggested words for Statement of Attainment

This UEGSS00011 Construct, Lay and Connect a Gas Distribution Service to Steel Mains Skill Set from the UEG Gas Industry Training Package meets the industry requirements for individuals who construct, lay and connect a gas distribution service to steel mains.

Custom Content Section

Not applicable.

UEGSS00012 Construct, Lay and Connect Gas Distribution Service to Plastic Mains Skill Set

Modification History

Release 1. New Skill Set

This Skill Set replaces and is equivalent to UEGSS00006 Construct, lay and connect gas distribution service to plastic mains.

Description

This Skill Set is for individuals who construct, lay and connect gas distribution service to plastic mains.

Pathways Information

The UEGSS00012 Construct, Lay and Connect Gas Distribution Service to Plastic Mains Skill Set is part of the UEG Gas Industry Training Package.

Entry Requirements

It is essential that anyone undertaking this Skill Set already hold or concurrently complete the following units of competency or equivalent:

UEGNSG005	Prepare to work in the gas industry
UEGNSG132	Carry out basic work activities in a gas industry work environment
UEGNSG140	Apply environmental policies and procedures in the utilities industry
UEGNSG141	Apply workplace health and safety regulations, codes and practices in the gas supply industry

Licensing/Regulatory Information

Not applicable.

Skill Set Requirements

A total of 2 units of competency must be attained.

UEGNSG212	Construct, lay and connect a gas distribution service to a plastic main

UEGNSG134 Establish a utilities infrastructure work site

Target Group

The Skill Set is targeted at persons who construct, lay and connect gas distribution service to plastic mains work activities.

Suggested words for Statement of Attainment

This UEGSS00012 Construct, Lay and Connect Gas Distribution Service to Plastic Mains Skill Set from the UEG Gas Industry Training Package meets the industry requirements for individuals who construct, lay and connect gas distribution service to plastic mains.

Custom Content Section

Not applicable.

UEGSS00013 Basic Hydrogen Safety Skill Set

Modification History

Release 1. This is the first release of this Skill Set in the UEG Gas Industry Training Package.

Description

The Skill Set is for all individuals working with hydrogen and covers complying with and applying safety regulations, practices, and procedures.

Pathways Information

The UEGSS00013 Basic Hydrogen Safety Skill Set is part of the UEG Gas Industry Training Package. Some Units of Competency in this Skill Set contribute to qualifications in the UEG Gas Industry Training Package.

Licensing/Regulatory Information

The application of the skills and knowledge described in the Units of Competency listed in this Skill Set may require a licence/registration to practice in the workplace. Please check state and territory legislative and regulatory licensing requirements before commencing these Units of Competency.

Skill Set Requirements

A total of **3 units of competency** must be attained.

PUAFER008	Confine small emergencies in a facility
UEGNSG005	Prepare to work in the gas industry
UEGNSG901	Apply safety practices, procedures, and compliance standards for handling hydrogen gas

Target Group

The Skill Set is targeted at all individuals working with hydrogen and covers complying with and applying safety regulations, practices, and procedures.

Suggested words for Statement of Attainment

This UEGSS00013 Basic Hydrogen Safety Skill Set from the UEG Gas Industry Training Package meets the industry requirements for complying with and applying safety regulations, practices, and procedures while working with hydrogen.

Custom Content Section

Units of Competency in this Skill Set may need to be contextualised for implementation in the hydrogen environment.

UEGSS00014 Inject Hydrogen into Distribution Networks Skill Set

Modification History

Release 1. This is the first release of this Skill Set in the UEG Gas Industry Training Package.

Description

The Skill Set is for individuals performing the injection of hydrogen into the distribution networks.

Pathways Information

UEGSS00014 Inject Hydrogen into Distribution Networks Skill Set is part of the UEG Gas Industry Training Package. Some Units of Competency in this Skill Set contribute to qualifications in the UEG Gas Industry Training Package.

Licensing/Regulatory Information

The application of the skills and knowledge described in the Units of Competency listed in this Skill Set may require a licence/registration to practice in the workplace. Please check state and territory legislative and regulatory licensing requirements before commencing these Units of Competency.

Skill Set Requirements

A total of **4 units of competency** must be attained.

PUAFER008	Confine small emergencies in a facility
UEGNSG005	Prepare to work in the gas industry
UEGNSG901	Apply safety practices, procedures, and compliance standards for handling hydrogen gas
UEGNSG904	Inject hydrogen gas into distribution networks

Target Group

The Skill Set is targeted at persons who undertake the injection of hydrogen into the distribution networks.

Suggested words for Statement of Attainment

This UEGSS00014 Inject Hydrogen into Distribution Networks from the UEG Gas Industry Training Package meets the industry requirements for injecting hydrogen into the distribution networks.

Custom Content Section

Units of Competency in this Skill Set may need to be contextualised for implementation in the hydrogen environment.

UEGSS00015 Monitor Hydrogen using Control Systems Skill Set

Modification History

Release 1. This is the first release of this Skill Set in the UEG Gas Industry Training Package.

Description

The Skill Set is for individuals who monitor hydrogen in the distribution networks using control systems in a control centre environment.

Pathways Information

The UEGSS00015 Monitor Hydrogen using Control Systems Skill Set is part of the UEG Gas Industry Training Package. Units of Competency in this Skill Set contribute to qualifications in the UEG Gas Industry Training Package.

Licensing/Regulatory Information

The application of the skills and knowledge described in the Units of Competency listed in this Skill Set may require a licence/registration to practice in the workplace. Please check state and territory legislative and regulatory licensing requirements before commencing these Units of Competency.

Skill Set Requirements

A total of **3 units of competency** must be attained.

MSS402061	Use SCADA systems in operations
UEGNSG005	Prepare to work in the gas industry
UEGNSG905	Monitor and control hydrogen in gas distribution networks

Target Group

The Skill Set is targeted at individuals who undertake monitoring of hydrogen in the distribution networks using control systems in a control centre environment.

Suggested words for Statement of Attainment

This UEGSS00015 Monitor Hydrogen using Control Systems Skill Set from the UEG Gas

Industry Training Package meets the industry requirements for monitoring hydrogen in the distribution networks using control systems in a control centre environment.

Custom Content Section

Units of Competency in this Skill Set may need to be contextualised for implementation in the hydrogen environment.