



Australian Government

UEPMNT312 Maintain industrial pressure vessels

Release: 2

UEPMNT312 Maintain industrial pressure vessels

Modification History

Release 2. Minor release to update superseded pre-requisite units.

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 maintain boiler pressure parts, pressure vessels and associated components.

Pressure vessels are designed to hold gas or liquids at a pressure substantially different from the ambient pressure, they are used in conjunction with mechanical plant and equipment in a power generation facility. Maintaining boiler pressure parts, pressure vessels and associated components will include monitoring and verifying equipment is operating efficiently.

Competency in this unit requires the ability to plan work, remove associated equipment to facilitate maintenance, dismantle and maintain pressure vessel, reassemble pressure vessel and to report on all completed work tasks. Individuals will, in general, work under supervision in an electrical, electronic and/or mechanical equipment repair workshop or on site.

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 practice

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

MEM09002 Interpret technical drawing

MEM12023 Perform engineering measurements

MEM18001 Use hand tools

MEM18002 Use power tools/hand held operations

MEM18003 Use tools for precision work

MEM18006 Perform precision fitting of engineering components

MEM18055 Dismantle, replace and assemble engineering components

Competency Field

Maintenance

Unit Sector

Electricity generation

Elements and Performance Criteria

ELEMENTS

Elements describe the essential outcomes.

1 Plan and prepare for work

2 Remove associated equipment to facilitate

PERFORMANCE CRITERIA

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

- 1.1** Requirements including scope of work and assigned roles are identified and 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 reviewed in preparation for work
- 1.3** Resources are obtained and inspected for compliance with job specification
- 1.4** Relevant plans, drawings and manuals are selected and used, in accordance with workplace procedures
- 1.5** Correct materials and components for work are obtained and inspected, in accordance with workplace procedures, for compliance with job specification
- 1.6** Work is planned sequenced, 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
- 2.1** Associated equipment isolation and depressurisation is confirmed visually and manually, as required, in

maintenance	accordance with workplace procedures
	2.2 Pressure vessel is disconnected, in accordance with the workplace procedures
	2.3 Pressure vessel's associated equipment is removed, in a manner which will assist in replacement, in accordance with workplace procedures
	2.4 Pressure vessel is inspected for abnormalities, in accordance with workplace procedures
3 Dismantle and maintain pressure vessel	
	3.1 Hazardous material is identified and arrangements are made for clearance from pressure vessel and work site, in accordance with workplace procedures and legislative requirements
	3.2 Internal and external components are systematically dismantled, marked and recorded, in accordance with workplace procedures
	3.3 Components are refurbished, catalogued and stored for reassembly, in accordance with workplace procedures and manufacturers' specifications
	3.4 Gasket and seal requirements are assessed, manufactured or obtained, in accordance with workplace procedures and manufacturers' specifications
	3.5 Vessel mountings are maintained, as required, in accordance with workplace procedures and manufacturers' specifications
	3.6 Internal piping or tubing is tested and expanded or replaced, as required, in accordance with workplace procedures and manufacturers' specifications
4 Reassemble pressure vessel	
	4.1 Internal and external components are systematically reassembled, in accordance with workplace procedures and manufacturers' specifications
	4.2 Associated equipment is aligned and replaced, in accordance with workplace procedures
	4.3 Fastenings are torqued, in accordance with manufacturers' specification and workplace procedures
	4.4 Vessel is pressure tested, monitored and adjusted, if required, in accordance with workplace procedures, and

		legislative requirements
5	Complete work	
	5.1	Work is completed and appropriate personnel are notified, in accordance with workplace procedures
	5.2	Work area is cleared of waste, cleaned, restored and secured, in accordance with workplace procedures
	5.3	Tools and equipment are cleaned, maintained and stored, in accordance with workplace procedures
	5.4	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 UEPMT312B Maintain industrial pressure vessels.

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 UEPMNT312 Maintain industrial pressure vessels

Modification History

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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
 - safe working practices
- communicating with personnel
- completing work as per schedules
- dismantling and reassembling components
- identifying, repairing and installing pressure system components
- interpreting manufacturers' specifications and manuals
- manufacturing and installing gaskets and seals
- operating in permit to work system
- planning for industrial pressure vessel maintenance work
- reassembling industrial pressure vessel
- removing associated equipment to facilitate maintenance using removal techniques
- dismantling and maintaining industrial pressure vessel utilising maintenance techniques and procedures
- using tools including specialised tools and jigs
- utilising installation, testing, levelling and alignment techniques
- working on pressure vessels, valves and mountings

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:

- component dismantling and reassembly
- industrial pressure vessels
- legislation, industry standards, codes of practice and regulations
- levelling and alignment techniques
- manufacture and installation of gaskets and seals
- manufacturers' specifications and manuals
- materials and components
- permit to work system
- pressure system characteristics
- repair and installation of pressure system components
- technical drawings
- tools including specialised tools and jigs
- typical arrangements of power production plant
- valves and mountings
- valves and pressure system components
- 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.

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

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

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