



Australian Government

UEPMNT303 Maintain mechanical valves

Release: 2

UEPMNT303 Maintain mechanical valves

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 Minor release to update superseded pre-requisite units.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 undertake fault finding, diagnosis, repair and/or overhaul of mechanical valves, excluding any associated servo or actuating unit.

Fault finding is the process of undertaking an investigation into the cause of a mechanical valve malfunction and then performing repairs to ensure optimal performance of equipment and plant.

Competency in this unit requires the ability to plan work, remove mechanical valves for maintenance, perform mechanical valve maintenance, replace and/or install valves 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 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

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

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 for work activities are obtained and inspected for compliance with the job specification
- 1.4** Relevant plans, drawings and manuals are selected and used, in accordance with the work 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 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 Remove mechanical valves

- 2.1** Isolations are confirmed, where appropriate, in

for maintenance

accordance with workplace procedures

- 2.2 Mechanical valve is disconnected, in accordance with workplace procedures
- 2.3 Mechanical valve is removed, in a manner which will assist in replacement, in accordance with the workplace procedures
- 2.4 Mechanical valve is inspected for abnormalities, in accordance with the workplace procedures

3 Perform mechanical valve maintenance

- 3.1** Maintenance is performed, in accordance with manufacturers' specification and workplace procedures
- 3.2** Mechanical valve is dismantled, clearly marked for identification, and relevant sketches are drawn, in accordance with workplace procedures
- 3.3** Components are prepared for reassembly, in accordance with manufacturers' drawings and/or manuals and workplace procedures
- 3.4** New components are inspected, in accordance with workplace procedures, to ensure compliance with manufacturers' specification
- 3.5** Dimensional inspection is performed with precision measuring devices, in accordance with workplace procedures, to ensure compliance with manufacturers' specification and
- 3.6** Components are reassembled for testing, in accordance with manufacturers' specification and workplace procedures
- 3.7** Modifications and/or alterations are undertaken, in accordance with manufacturers' specification and workplace procedures
- 3.8** Components are levelled, aligned, coupled and connected, in accordance with manufacturers' specifications and workplace procedures
- 3.9** Valves are pressure tested, monitored and adjusted, if required, in accordance with manufacturers' specifications and workplace procedures

4 Replace or install

- #### 4.1 Equipment is prepared for valve replacement, in

mechanical valves	accordance with workplace procedures
4.2	Mechanical valve is replaced, in accordance with manufacturers' specification and workplace procedures
4.3	Mechanical valve is connected, in accordance with manufacturers' specification and workplace procedures
4.4	Final inspection is completed, in accordance with workplace procedures
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 UEPMT303B Maintain mechanical valves.

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 UEPMNT303 Maintain mechanical valves

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
 - identifying hazards
 - risk control measures
 - safe working practices
- communicating with personnel
- completing work as per scheduled requirements
- determining work to permit requirements
- dismantling and reassembling mechanical valves
- implementing legislation, industry standards, codes of practice and regulations
- interpreting technical drawings, plans, manufacturers' specifications and manuals
- levelling and aligning valves using approved techniques
- manufacturing and installing seals and gaskets
- performing valve maintenance using maintenance techniques and procedures
- planning for mechanical valve maintenance work
- recognising worn or damaged components
- removing valves for maintenance using removal techniques and procedures
- replacing and installing valves using installation techniques and procedures
- selecting materials and components
- testing mechanical valves and equipment
- undertaking evaluations using data analysis techniques
- working with tools and precision measuring equipment

Knowledge Evidence

Evidence required to demonstrate competence in this unit must be relevant to and satisfy all the

requirements of the elements, performance criteria and range of conditions and includes knowledge of:

- data analysis techniques
- dismantling and reassembling techniques
- isolations
- manufacture and installation of seals and gaskets
- manufacturers' specifications and manuals legislation, industry standards, codes of practice and regulations
- materials and components
- measurement equipment
- permit to work system
- recognition of worn or damaged components
- technical drawings and plans
- test techniques
- types of mechanical valves and characteristics
- typical arrangements of power production plant
- use of tools
- valve installation techniques
- valve levelling and alignment techniques
- WHS/OHS legislated requirements including:
 - emergency procedures
 - identifying hazards
 - 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
- applicable documentation including workplace procedures, industry standards, equipment

specifications, regulations, codes of practice and operation manuals.

- relevant and appropriate materials, tools, equipment and personal protective equipment currently used in industry

Links

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