



Australian Government

UEPMNT318 Conduct generator mechanical maintenance

Release: 2

UEPMNT318 Conduct generator mechanical maintenance

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 Minor release to update superseded pre-requisite units.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 conduct mechanical maintenance on an electrical generating unit.

A power generation facility typically maintains several independent generating units which can be brought online or taken offline as demand fluctuates in the system. Regular maintenance ensures that all electrical generating units are operating to maximum efficiency.

Competency in this unit requires the ability to plan work, remove associated equipment, perform generator maintenance, replace generator associated equipment 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

PERFORMANCE CRITERIA

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

- 1.1** Requirements including scope of work and assigned tasks 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, in accordance with workplace procedures, 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 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

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|---|--|
| 2 Remove associated equipment | <ul style="list-style-type: none">2.1 Work notations are confirmed, in accordance with workplace procedures2.2 Associated generator equipment is disconnected, in accordance with workplace procedures2.3 Associated generator equipment is removed, in accordance with workplace procedures2.4 Associated generator equipment is inspected for abnormalities, in accordance with workplace procedures |
| 3 Perform generator maintenance | <ul style="list-style-type: none">3.1 Generator maintenance is performed, in accordance with workplace procedures and manufacturers' specification3.2 Generator is dismantled, clearly marked for identification and relevant data or sketches are noted or drawn, in accordance with workplace procedures3.3 Components are prepared for reassembly, in accordance with manufacturers' drawings or manuals and workplace procedures3.4 New components are inspected, in accordance with workplace procedures, to ensure compliance with manufacturers' specification3.5 Dimensional inspection is performed, in accordance with workplace procedures, on generator and components to ensure compliance with manufacturers' specifications3.6 Components are reassembled for testing, in accordance with workplace procedures and manufacturers' specification3.7 Components are levelled, aligned and coupled, in accordance with workplace procedures and manufacturers' specification |
| 4 Replace generator associated equipment | <ul style="list-style-type: none">4.1 Associated generator equipment is replaced and connected, in accordance with workplace procedures4.2 Generator is rotated and checks are carried out, in accordance with workplace procedures, to ensure operating conditions are in accordance with manufacturers' specifications4.3 Modifications outside of manufacturers' specifications |

are approved by appropriate personnel and are documented, in accordance with 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 UEPMNT318B Conduct generator 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 UEPMNT318 Conduct generator mechanical maintenance

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:
 - ascertaining hazardous materials
 - emergency procedures
 - risk control measures
 - safe working practices
- assembling and disassembling equipment
- balancing, levelling and aligning
- communicating with personnel
- completing work as per scheduling requirements
- conducting transmissions and/or couplings
- determining permit to work
- identifying components including recognising worn, damaged or faulty components
- interpreting technical drawing, manufacturers' specifications and manuals
- performing generator mechanical maintenance using overhaul and maintenance techniques and procedures
- planning for generator mechanical maintenance work
- removing generator mechanical associated equipment using removal techniques and procedures
- replacing generator mechanical associated equipment using replacement techniques and procedures
- undertaking isolations
- using tools and measuring equipment
- utilising assessment and data analysis techniques and tools
- working with diagnosis and testing techniques

Knowledge Evidence

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

- advanced balancing, levelling and aligning techniques
- construction of mechanical generators
- diagnostic and testing techniques
- generator mechanical maintenance
- isolations
- legislation, industry standards, codes of practice and regulations
- manufacturers' specifications
- measuring equipment
- permit to work system
- plant and equipment and its location
- technical drawings and plans
- tools
- transmissions and couplings
- typical arrangements of power production plant
- WHS/OHS legislated requirements including:
 - ascertaining hazardous materials
 - 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.

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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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