



**Australian Government**

# **UEPMNT361 Maintain wind turbine mechanical systems**

**Release: 1**

# UEPMNT361 Maintain wind turbine mechanical 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 the maintenance of wind turbine mechanical systems.

Wind turbine mechanical systems in power generation facilities are dependent on regular maintenance to work efficiently and safely. Maintenance involves the repair, replacement, servicing, inspection and testing of equipment and systems.

Competency in this unit requires the ability to plan work, inspection and testing of wind turbine mechanical systems, conduct maintenance and complete all 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

There are no prerequisite units.

## Competency Field

Maintenance

## 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 Plan and prepare for work**

- 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, 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 requirements
- 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 Inspection and testing of wind turbine mechanical systems**

- 2.1** Isolations are confirmed, in accordance with workplace procedures
- 2.2** Wind turbine mechanical system equipment and components are identified and prepared for inspection and testing
- 2.3** Visual inspection and testing are carried out, in accordance with manufacturer specifications and

- workplace procedures
- 2.4** Defects are repaired or reported, in accordance with manufacturers' specifications and workplace procedures
- 3 Conduct maintenance**
- 3.1** Faulty wind turbine mechanical system equipment is replaced, in accordance with manufacturers' specifications and workplace procedures
- 3.2** Wind turbine mechanical system equipment is dismantled, if required, for maintenance, in accordance with manufacturers' specifications and workplace procedures
- 3.3** Sketches are made, data is noted and components are marked for identification or reassembly, in accordance with workplace procedures
- 3.4** New components are obtained and inspected, in accordance with workplace procedures, for compliance with manufacturers' specifications
- 3.5** Wind turbine mechanical system equipment is reassembled, using approved techniques, in accordance with manufacturers' specifications and workplace procedures
- 3.6** Wind turbine mechanical system equipment is tested, monitored and adjusted, as required, in accordance with manufacturers' specifications and workplace procedures
- 4 Complete work**
- 4.1** Work is completed and appropriate personnel are notified, in accordance with workplace procedures
- 4.2** Work area is cleared of waste, cleaned, restored and secured, in accordance with workplace procedures
- 4.3** Tools and equipment are maintained and stored, in accordance with workplace procedures
- 4.4** 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 UEPMNT361A Maintain wind turbine mechanical 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 UEPMNT361 Maintain wind turbine mechanical systems

## 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:

- analysing data using analysis techniques and tools
- applying Work, Health and Safety (WHS)/Occupational Health and Safety (OHS) requirements including:
  - emergency procedures
  - hazard identification
  - risk control measures
  - safe working practices
- completing work as per scheduled requirements communicating with personnel
- conducting preventive maintenance using maintenance procedures
- determining permit to work requirements
- dismantling and reassembling wind turbine mechanical systems using approved techniques
- implementing legislation, industry standards, codes of practice and regulations
- inspecting and testing of wind turbine mechanical systems
- interpreting manufacturers' specifications and manuals
- planning for wind turbine mechanical systems maintenance work
- recognising worn and damaged components
- selecting materials and components
- undertaking isolations
- using tools
- utilising 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 include knowledge of:

- equipment and materials
- generation plant and equipment, its location and operating parameters

- inspections and tests for wind turbine mechanical systems
- isolations
- legislation, industry standards, codes of practice and regulations
- manufacturers' specifications and manuals
- permit to work system
- precision measuring equipment
- preventive maintenance techniques
- tools
- typical arrangements of wind farm power plant
- wind turbine types and characteristics
- 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

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