



Australian Government

UEPMNT014 Test and commission wind turbines

Release: 1

UEPMNT014 Test and commission wind turbines

Modification History

Release 1. This is the first release of this unit of competency in the UEP Electricity Supply Industry - Generation Sector Training Package Release 2.0.

Application

This unit involves the skills and knowledge required to conduct testing and commissioning of a wind turbine.

Testing and commissioning of wind turbines includes the assessment and verification that all equipment and components are operating efficiently and are meeting operational requirements.

Competency in this unit requires the ability to plan work, test systems equipment, test system 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.

Licensing/Certification Information

The application of the skills and knowledge described within this unit may require a licence/registration to practice in the workplace. Other conditions may also apply under State and Territory legislative and regulatory licencing requirements which must be confirmed prior to commencing this unit. For this unit persons must have one of the following as an entry requirement:

- Unrestricted Electrical Licence issued in an Australian State or Territory, or
- Electrical Fitter Occupational Licence issued in an Australian State or Territory, or
- UEEEL0028 Conduct compliance and functional verification of electrical apparatus and existing circuits, or

UEEEL0039 Design, install and verify compliance and functionality of general electrical installations.

Pre-requisite Unit

Not applicable

Competency Field

Maintenance

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 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' recommendations and specifications, environmental requirements 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 for compliance with job specification
- 1.6** Commissioning is planned, sequenced and prioritised in accordance with workplace procedures
- 1.7** Potential hazards are identified and risk control measures are implemented in accordance with workplace procedures
- 1.8** Work area is accessed and prepared in accordance with workplace procedures

2 Test system components

- 2.1** Isolations are confirmed, where appropriate, in accordance with workplace procedures
- 2.2** Wind turbine system components are visually inspected to ensure absence of any damage, defects and deterioration in accordance with workplace procedures and commissioning plan
- 2.3** Wind turbine system components are tested in conjunction with other related systems and equipment to ensure correct operation in accordance with workplace

procedures and commissioning plan

- 2.4** Wind turbine wiring systems are checked and tested in conjunction with other related systems and equipment in accordance with workplace procedures and commissioning plan

3 Commission system

- 3.1** Isolations are confirmed, where appropriate, in accordance with workplace procedures
- 3.2** Wind turbine system, plant and components are set up and calibrated in accordance with workplace procedures, operational requirements, and manufacturers' manufacturers' recommendations and specifications
- 3.3** Wind turbine system is commissioned using appropriate plans, drawings and manuals in accordance with workplace procedures and commissioning plan
- 3.4** Wind turbine system is commissioned in conjunction with other related systems and equipment in accordance with workplace procedures and commissioning plan
- 3.5** Wind turbine components are commissioned in accordance with workplace procedures and commissioning plan
- 3.6** Faulty wind turbine components are repaired or reported in accordance with workplace procedures
- 3.7** Final inspection is carried out in accordance with workplace procedures and commissioning plan

4 Complete work

- 4.1** Wind turbine commissioning 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 UEP Electricity Supply Industry - Generation Sector Training Package Companion Volume Implementation Guide.

Unit Mapping Information

This unit replaces and is equivalent to UEPMNT450 Test and commission wind turbine generators.

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 UEPMNT014 Test and commission wind turbines

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

- 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 in accordance with scheduled requirements
- determining permit to work requirements
- complying with regulations, industry standards, legislative requirements, codes of practice, manufacturers' recommendations and specifications, and environmental requirements
- inspecting wind turbine system and wiring
- planning for testing and commissioning wind turbine work
- selecting materials
- testing and commissioning wind turbine system
- testing wind turbine systems equipment
- undertaking isolations
- using data analysis techniques and tools
- utilising tools and equipment.

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 include knowledge of:

- equipment and materials required
- installation, testing and commissioning practices
- isolations
- layout of wind farm plant, and operation of equipment

- permit to work system
- regulations, industry standards, legislative requirements, codes of practice, manufacturers' recommendation and specifications, and environmental requirements
- test and measurement instruments and techniques for use
- types of wind turbines and wiring systems
- typical arrangements of wind farm power production plant
- wind turbine components and parts
- WHS/OHS legislated requirements, including:
 - emergency procedures
 - hazard identification
 - risk control measures
 - safe working practices
- 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, industry standards, equipment specifications, regulations, codes of practice and operation manuals.

Links

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