



Australian Government

UEPMNT010 Maintain wind turbine control systems

Release: 1

UEPMNT010 Maintain wind turbine control systems

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 undertake scheduled maintenance of control systems in large scale wind turbines.

Maintenance is the process of optimising control system operations in large scale wind turbines through regular inspections and verification of operational efficiency.

Competency in this unit requires the ability to plan work, conduct maintenance on wind turbine control systems 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 trained and authorised to receive permits to work.

The application of the skills and knowledge described in this unit may require a licence/registration to practice in the workplace.

Other conditions may apply under state and territory legislative and regulatory licensing requirements which must be confirmed prior to commencing this unit.

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** Work is planned, sequenced and prioritised in accordance with workplace procedures
 - 1.6** Isolations are requested, if required, in accordance with workplace procedures
 - 1.7** Work area is prepared in accordance with workplace procedures
- 2 Conduct maintenance on wind turbine control system components**
 - 2.1** Faulty control system components are replaced in accordance with manufacturers' recommendations and specifications, and workplace procedures
 - 2.2** Documented service checklists, or similar, are followed in accordance with workplace procedures
 - 2.3** Diagnostic testing and data from monitoring systems are used to identify those components requiring maintenance
 - 2.4** Control system components are dismantled for maintenance, if required, in accordance with manufacturers' recommendations and specifications, and workplace procedures
 - 2.5** Approved maintenance techniques are used to enable identification or reassembly of components in accordance with workplace procedures
 - 2.6** New components are obtained and inspected for compliance with manufacturers' recommendations and specifications in accordance with workplace procedures

- 2.7 Control system components are tested, monitored and adjusted, as required, in accordance with manufacturers' recommendations and specifications, and workplace procedures
- 3 Complete work**
 - 3.1 Work is completed and appropriate personnel are notified in accordance with workplace procedures
 - 3.2 Work area is cleared of waste, cleaned, restored and secured in accordance with workplace procedures
 - 3.3 Tools and equipment are maintained and stored in accordance with workplace procedures
 - 3.4 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 UEPMNT443 Maintain wind turbine generator control 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 UEPMNT010 Maintain wind turbine control systems

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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
- conducting planned maintenance on wind turbine control systems
- determining permit to work requirements
- diagnosing wind turbine control system faults, including interpreting fault codes and data
- complying with regulations, industry standards, legislative requirements, codes of practice, manufacturers' recommendations and specifications, and environmental requirements
- planning for maintenance of wind turbine control systems work
- reassembling wind turbine control system components
- replacing wind turbine control system components
- testing wind turbine control system and components
- undertaking maintenance on wind turbine control systems.

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:

- diagnosis techniques for wind turbine control system faults, including codes
- maintenance requirements for wind turbine control systems
- permit to work system
- reassembly techniques for wind turbine control system components
- regulations, industry standards, legislative requirements, codes of practice, manufacturers'

- recommendations and specifications, and environmental requirements
- replacement techniques for wind turbine control system components
- tests for wind turbine control system and components
- WHS/OHS legislated requirements, including:
 - emergency procedures
 - hazard identification
 - risk control measures
 - safe working practices
- wind turbine generation control system types and characteristics
- 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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