



Australian Government

**Assessment Requirements for UEERE0036
Install small wind energy conversion
systems rated up to 10 kW for ELV
stand-alone applications**

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Modification History

Release 1. This is the first release of this unit of competency in the UEE Electrotechnology Training Package.

Performance Evidence

Evidence required to demonstrate competence in this unit must be relevant to and satisfy all of the requirements of the elements and performance criteria on at least one occasion and include:

- assessing customer energy requirements, efficiency improvements and site limitations
- reading and interpreting drawings related to and apparatus locations and circuit connections
- placing and securing system components accurately
- maintaining fire integrity
- connecting system extra-low voltage (ELV) components to comply with requirements
- testing system operation and verifying compliance with standards and job specifications
- completing necessary documentation, including handing over system operational documents to the customer
- dealing with unplanned events
- applying relevant work health and safety (WHS)/occupational health and safety (OHS) requirements and workplace procedures and practices, including the use of risk control measures
- applying sustainable energy principles and practices
- checking isolation of circuits/machines/systems
- coordinating work with relevant person/s
- determining live testing/measurement requirements
- identifying and accessing materials, tools, equipment and testing devices
- installing and setting up small wind energy conversion systems (WECS) for ELV stand-alone application for one mainstream type of small WECS.

Knowledge Evidence

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

- installation and maintenance of small ELV WECS, including:
 - installation of an ELV WECS encompassing:
 - selection of an appropriate tower for the installation of a WECS taking into consideration soil type and footings, local council approvals, appropriate codes,

AS/NZS 1170.2 Structural design actions - Wind actions, and transport of tower

- appropriate methods and safety procedures for raising tower and WECS, lightning protection, tower maintenance, safety in the erection and maintenance of the tower and WECS, and site management to minimise environmental impacts
- appropriate electrical transmission voltage and cable size from the WECS to the load or energy storage
- appropriate installation, commissioning, fault diagnosis and rectification using appropriate safety procedures, including WECS power output, voltage regulation, and transmission cable voltage drop, manual and automatic furling, and shutdown
- schematic and wiring diagrams for the WECS showing the general circuit layout and protection between the WECS, energy storage, inverter and loads according to AS/NZS 3000 Electrical installation (known as the Australian/New Zealand Wiring Rules), AS/NZS 4509 Stand-alone power systems, and lightning protection requirements
- suitable layout for the location of energy storage to meet AS/NZS 3000 Electrical installation (known as the Australian/New Zealand Wiring Rules), AS 3011.1 Electrical installations - Secondary batteries installed in buildings - Vented cells and AS/NZS 4509 Stand-alone power systems
- safety procedures for the installation, commissioning, fault diagnosis of system components
- maintenance of an ELV WECS encompassing:
 - appropriate methods and safety procedures for tower maintenance
 - appropriate maintenance methods and safety procedures, including WECS power output, voltage regulation, and transmission cable voltage-drop, manual and automatic furling, and shutdown
 - safety procedures for the maintenance of system components
 - maintenance schedule for the system
- tower maintenance
- relevant industry standards
- relevant manufacturer specifications
- relevant safe work method statements (SWMS)/job safety assessments or risk mitigation processes
- relevant WHS/OHS legislated requirements
- relevant workplace documentation
- relevant 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 suitable workplace operational situations where it is appropriate to do so; where this is not appropriate, assessment must occur in suitable 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
- resources that reflect current industry practices in relation to installing small WECS for stand-alone applications
- applicable documentation, including workplace procedures, equipment specifications, regulations, codes of practice and operation manuals.

Links

Companion Volume implementation guides are found in VETNet - -

<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=b8a8f136-5421-4ce1-92e0-2b50341431b6>