



Australian Government

Assessment Requirements for UEERE0070 Fault find and repair grid-connected photovoltaic power supply systems

Release: 1

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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, performance criteria and range of conditions on at least two occasions and include:

- applying relevant work health and safety (WHS)/occupational health and safety (OHS) procedures
- finding and repairing faults/issues in grid-connected photovoltaic power supply systems including:
 - verifying the reported faults/issues
 - diagnosing fault/issue based on measured and expected values
 - determining and implementing solution
 - documenting issue and justification for the solution used.

Knowledge Evidence

Evidence required to demonstrate competence in this unit must be relevant to and satisfy all of the requirements of the elements, performance criteria and range of conditions and include knowledge of the following. Additional advice and definitions for some items is provided in the UEE Training Package Companion Volume Implementation Guide (CVIG).

- grid-connected system fault finding:
 - procedures for individual equipment
 - procedures for interconnected systems
- grid-connected system maintenance procedures including:
 - requirements for individual equipment
 - requirements for interconnected systems.
 - requirements including relevant industry standards, regulations and manufacturer requirements
- grid-connected system testing and commissioning procedures including:
 - safe testing of equipment
 - safe testing of system operation
- daily irradiation

- PV modules
- module characteristics including:
 - definition of the terms: I-V curve, operating point, MPP, cell temperature co-efficient, voltage and power output co-efficient
 - family of current - voltage (I-V) curves for a PV module, labelling major points and showing the effects of variation in irradiance and variation in cell temperature
 - major ratings of a PV module from manufacturer's information or nameplate data
 - configuration of a typical PV array
 - the effect of partial shading of a PV module or array, the impact of bypass diodes and the significance of their configuration on output current in typical operating conditions
 - the scope and content of Australian or international standards relevant to the performance of PV modules
 - module level power electronics
- calculation of the daily energy output of a PV array in accordance with relevant industry standards, and by using "rule of thumb" de-rating factors
- relevant manufacturer specifications
- workplace documentation for reporting repair activities.

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, 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>