



Australian Government

Assessment Requirements for UEEEL0047

Identify, shut down and restart systems with alternate supplies

Release: 2

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Modification History

Release 2. This is the second release of this unit of competency in the UEE Electrotechnology Training Package.

Assessor requirements updated in Assessment Conditions.

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 separate occasions and include:

- applying work health and safety (WHS)/occupational health and safety (OHS) workplace procedures
- identifying and assessing hazards and risks, including hazards based on supply system labelling, and implementing control measures
- obtaining and checking required tools, equipment and testing devices
- reading and interpreting electrical documentation, labelling and drawings
- identifying alternative supply arrangements and configurations
- applying safe shutdown procedures
- isolating energy sources in accordance with workplace procedures and regulatory requirements, including:
 - applying safe isolation practices
 - identifying correct isolation device
 - identifying and checking operation of control device/s
 - identifying live conductors
 - identifying known source of electromotive force (EMF) for testing purposes
 - correctly using a voltage tester
 - isolating multiple supplies, where required
 - isolating under no loads
 - ensuring all energy sources are isolated
 - de-energising charging sources, including:
 - solar charge controllers
 - battery chargers
 - proving systems are isolated

- tagging-out all supplies
- ensuring all installation work complies with relevant industry standards and legislation to which the selection, installation and control equipment of each type of system must comply
- checking battery storage system integrity is in accordance with industry standards and regulatory and manufacturer requirements, including ventilation, correct isolation devices and installation position
- safely re-instating generation system to operational mode according to site documentation and manufacturer instructions
- completing required documentation and forwarding to relevant parties.

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:

- working safely with alternate supplies, including identifying hazards and controlling risks in compliance with regulatory and enterprise requirements
- main types, arrangements and configurations of alternative supplies (generating system), including renewable and non-renewable generating systems
- fundamental requirements, including:
 - connection methods of alternative supplies
 - local supply authority requirements
 - characteristics and operation of uninterruptable power supplies (UPS)
 - direct current (d.c.) polarity requirements, including switching, correct rating of d.c. switches and protection devices
 - importance of replacing components like-for-like
 - inverter principles, including operation and interaction with the installation, anti-islanding and islanding requirements and testing requirements
 - identification and labelling requirements and their purpose
 - arrangement for connecting an alternative supply to an installation, including automatic and manual changeover switches, multiple main switches and switchboard wiring
 - earthing arrangements, including equipotential bonding, and earthing methods and requirements for stand-alone systems and generators
- safe isolation of the generator/energy source, including:
 - anti-islanding
 - auto changeover/auto start
 - backup – external power supply (EPS)/UPS mode or backup mode
 - earth fault alarm
 - voltage rise
 - voltage parameters AS/NZS 4777 Grid connection of energy systems via inverters
 - no loads
 - deenergising charging sources such as solar charge controllers, and battery chargers

- AS/NZ 4836 Safe working on or near low-voltage electrical installations and equipment
- labelling and identification of alternate supply systems
- battery storage systems, including regulatory and manufacturer requirements
- relevant industry standards to which the selection, installation and control equipment of each type of system must comply, including:
 - AS/NZS 3000 Electrical installations (known as the Australian/New Zealand Wiring Rules) relating to the requirements for electricity generation systems installation and electricity converters
 - AS/NZS 4777(series) Grid connection of energy systems via inverters
 - AS/NZS 5033 Installation and safety requirements for photovoltaic (PV) arrays
 - AS/NZS 3010 Electrical installations - generating sets
 - AS/NZS 4509 (series) Stand-alone power systems
 - AS 3011 Electrical installations - Secondary batteries installed in buildings
 - AS/NZS 5139 Electrical installations - Safety of battery systems for use with power conversion equipment
- site and regulatory documentation requirements.

Assessment Conditions

Assessors must hold credentials specified within the Standards for Registered Training Organisations current at the time of assessment.

Assessors must also hold the occupational licence for the jurisdiction the assessment is occurring where the activity being assessed requires a licence to practice.

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, manufacturer instructions, 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>

