



Australian Government

Assessment Requirements for UEERL0005 Locate and rectify faults in low voltage (LV) electrical equipment using set procedures

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 separate occasions and include:

- applying relevant work health and safety (WHS)/occupational health and safety (OHS) requirements, including:
 - selecting and using an appropriate range of personal protective equipment (PPE)
 - hazard identification
 - using risk control measures
 - using safe working practices when carrying out electrical disconnect/reconnect work
 - working safely with low voltage (LV) electrical installations
- dealing with unplanned events
- using routine fault-finding techniques, workplace procedures and problem-solving techniques to locate and rectify faults in LV electrical equipment
- following safe work method statements (SWMS) and procedures
- using wiring diagrams to assist in identifying fault locations
- identifying, inspecting, testing and isolation of electrical equipment
- preparing to replace, implementing repairs and reconnecting electrical equipment
- applying safe procedures to discharge a capacitor
- returning to service and testing for polarity, continuity and insulation resistance
- using safe working practices when carrying out fault finding
- identifying common types of electrical faults (open circuit, short circuit, partial open circuit and partial short circuit)
- interpreting ratings from nameplates for comparison with any replacement
- visual checking techniques on a range of single and multi-phase equipment
- using test instrumentation, safely conduct procedures to identify faults in a range of single and multi-phase equipment
- rectifying all identified faults and ensuring appropriate consultation/approval before implementing contingencies
- checking repaired equipment for safe and correct operation
- producing reports and documents for the identification and rectification of faults in electrical

LV equipment in accordance with workplace procedures and regulatory and compliance documentation.

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:

- safe fault finding, including:
 - identification of common types of electrical faults (open circuit, short circuit, partial open circuit and partial short circuit) in single and multi-phase equipment
 - test equipment to locate common faults
 - techniques for using wiring diagrams to identify possible fault locations
- types of single and multi-phase equipment, including:
 - identifying basic principles of operation of typical equipment
 - visual inspection and checking techniques on a range of single/multi-phase equipment
 - interpretation of ratings from nameplates for comparison with any replacement
 - principles of operation of control equipment and protection devices associated with a range of single/multi-phase equipment
- problem-solving techniques, including:
 - symptoms of common faults
 - common faults that occur in single and multi-phase equipment and the indicators of such faults
 - techniques to ensure the electrical isolation and the maintenance of electrical isolation of single/multi-phase equipment when conducting fault finding
 - regulatory requirements/obligations regarding any live testing that may be unavoidable
 - fault-finding procedures
 - rectification of identified faults ensuring appropriate consultation/approval before implementing contingencies
- documentation and reporting- including:
 - reporting and recording systems
 - relevant workplace documentation, including quality, policies and procedures
 - status reports and documents related to locating and identifying isolation mechanisms for a wide range of circuits and associated loads
 - reports, documents and procedures related to safely locating and rectifying faults in electrical LV equipment
- relevant job safety assessments or risk mitigation processes include safe working methods statements
- relevant industry standards, including AS/NZS 4836 Safe working on or near low-voltage electrical installations and equipment
- relevant manufacturer specifications
- relevant WHS/OHS legislated requirements.

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, including where not permissible under regulatory and licencing requirements, 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, facilities, equipment and PPE currently used in industry
- resources used should reflect current industry practices in relation to disconnecting and reconnecting electrical equipment connected to a LV supply
- applicable documentation, including workplace procedures, equipment specifications, regulations, Standards, 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>