



Australian Government

Assessment Requirements for UETTD RIS55 Install and maintain low voltage underground services

Release: 1

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Modification History

Release 1. This is the first release of this unit of competency in the UET Transmission, Distribution and Rail Sector 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 two separate occasions and include:

- applying relevant work health and safety (WHS)/occupational health and safety (OHS) requirements, including the use of risk control measures
- applying sustainable energy principles and practices
- connecting low voltage (LV) underground services to at least two (2) of the following:
 - underground pillar/pit connection (single phase)
 - underground pillar/pit connection (three phase*)
 - underground to overhead connection
 - (* must do)
- installing LV underground service protection devices, including at least one (1) of the following:
 - fuse units
 - circuit breakers
 - service links
- testing of LV underground service connections, including at least four (4) of the following:
 - polarity test *
 - phase rotation test
 - continuity test
 - voltage test
 - insulation resistance test
 - (* must do)
- installing LV underground service cables using at least one (1) of the following:
 - aluminium LV cable
 - cross-linked polyethylene (XLPE) cable
 - copper LV cable
- dealing with unplanned events on at least one (1) occasion.

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:

- standards, codes, legislation, supply authority regulations and/or enterprise requirements
- requirements for the use of enterprise construction manuals, system diagrams/plans and drawings, including:
 - types of LV underground services
 - methods of construction and installation
 - minimum depths for underground services to be buried and proximity to other assets and structures
- installation equipment/tools, including:
 - equipment and tools for underground service installation
 - fittings and hardware for underground service installation
- methods of laying cables, including:
 - conduits and sand and slabbing
- characteristics and applications of different types of cables, including:
 - cable cross-sectional area of conductors
 - current rating and fuse types and ratings
- techniques for maintenance of service installations, including:
 - diagnosis and repair of faults
- jointing and terminating methods, including:
 - polymeric heat-shrink materials
 - polymeric tape materials
 - insulated piercing connectors (IPCs)
 - energised and de-energised cables
 - connections to point of entry, fuse boxes, pillars and pits
- testing and commissioning procedures, including:
 - pre-energising tests - insulation resistance and continuity test
 - inspection
 - equipment functionality tests
 - polarity, voltage and phase sequence tests
 - neutral and phase identification tests
 - neutral integrity tests
 - meter function test
 - testing check forms
- connection principles, including:
 - purpose and function of multiple earth neutral (MEN) system
 - types of connection faults
 - causes and effects of incorrect and poor electrical connections

- principles of loop impedance
- reasons for and methods used to maintain standard phase sequencing
- purpose and operation of service fusing
- use of independent earth for testing.

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 conditions involving realistic and authentic activities that replicate operational 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 personal protective equipment (PPE) currently used in industry for installing and maintaining LV underground services
- applicable documentation, including workplace procedures, relevant industry standards, equipment specifications, regulations, codes of practice and operation manuals.

Links

UET Training Package Companion Volume Implementation Guide is found in VETNet - <https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=229bace1-b7bc-4653-9300-dffb13ecfad7>