



Australian Government

**Assessment Requirements for
UETDRRC002 Install and maintain low
voltage underground services in a very
remote community**

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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 Release 2.0.

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 legislation, regulations, standards, codes of practice and organisational workplace requirements, including:
 - work health and safety (WHS)/occupational health and safety (OHS)
- identifying hazards, assessing risks, identifying, applying and monitoring control measures
- obtaining, inspecting and using relevant personal protective equipment (PPE)
- obtaining and signing on and off relevant work permits in accordance with workplace requirements
- verifying underground electrical distribution network has been isolated and earthed/short circuited in accordance with workplace requirements
- connecting low voltage (LV) underground services cables, including at least two (2) of the following:
 - underground pillar/pit connection (three phase)*
 - underground pillar/pit connection (single 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 LV underground service cable connections, including all of the following:
 - polarity test
 - phase rotation test
 - continuity test
 - voltage test
 - insulation resistance
 - neutral loop impedance

- re-energising underground electrical distribution network in accordance with workplace requirements
- dealing with an unplanned event on at least one (1) occasion
- completing relevant work records, reports and documentation.

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:

- legislation, regulations, standards, codes of practice and organisational workplace requirements, including:
 - WHS/OHS
- hazard, risk assessment and risk control requirements, including potential hazards
- types and application of PPE
- safe use of plant, tools and equipment
- application, purpose and types of permits
- types, sizes and characteristics of LV underground service cables, including
 - two, three and four-core cable
 - cable cross-sectional area of conductors
 - current ratings
 - fuse types and ratings
 - cable insulation materials
- types and characteristics of LV service associated equipment, including:
 - conduit
 - heat/cold-shrink materials
 - cable labelling
 - pillars and pits
- construction manuals, system diagrams/plans and drawings
- types of installation plant, tools and equipment
- installation techniques, including:
 - methods of laying cable
 - sand and slabbing
 - minimum depths to assets in ground
- jointing and terminating methods, including:
 - polymeric heat/cold-shrink materials
 - polymeric tape materials
 - insulation piercing connectors (IPCs)
 - energised and de-energised cables
 - connections to point of entry, fuse boxes, pillars and pits
- connection principles, including:

- purpose and function of the 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
- relevant electrical access permit
- testing and commissioning procedures, including:
 - pre-energisation tests, including continuity and insulation resistance
 - inspection
 - equipment functionality
 - use of independent earth for testing
 - polarity, voltage and phase sequence
 - neutral and phase identification
 - neutral integrity
 - commissioning test forms and documentation
 - meter function
- completing workplace documentation
- techniques for the maintenance of underground services, including:
 - inspection
 - types of faults
 - diagnosis and repair of faults
- events constituting an unplanned event or incident
- procedures for responding to an unplanned event or incident.

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:

- relevant and appropriate materials, tools, facilities, equipment and PPE currently used for installing and maintaining LV underground services in a very remote community

- applicable documentation, including workplace requirements, relevant industry standards, 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=229bace1-b7bc-4653-9300-dffb13ecfad7>