



Australian Government

UETTD RIS37 Install and maintain low voltage services in remote communities (underground)

Release: 1

UETTDRI37 Install and maintain low voltage services in remote communities (underground)

Modification History

Release 1. This is the first release of this unit of competency in the UET Transmission, Distribution and Rail Sector Training Package.

Application

This unit involves the skills and knowledge required to install and maintain low voltage (LV) services in remote communities (underground) in the electricity supply industry (ESI).

It includes installing and maintaining of LV underground services and associated equipment. It also includes completing installation and maintenance of LV underground services and associated equipment; connecting LV underground service lines and associated equipment (between the connection point and the point of supply - customers' premises); repairing and replacing service cables, service fuses and service hardware; identifying and rectifying faults, insulation and voltage; polarity testing and phase rotation.

The application of the skills and knowledge described in this unit may require a licence/registration to practice in the workplace.

Other conditions may apply under state and territory legislative and regulatory licensing requirements which must be confirmed prior to commencing this unit.

Pre-requisite Unit

Common Unit Group

UEENEEE101A Apply Occupational Health and Safety regulations, codes and practices in the workplace

UEENEEE102A Fabricate, assemble and dismantle utilities industry components

UEENEEE103A Solve problems in ELV single path circuits

UEENEEE105A Fix and secure electrotechnology equipment

UEENEEE107A Use drawings, diagrams, schedules, standards, codes and specifications

UEENEEE137A Document and apply measures to control OHS risks associated with electrotechnology work

UEENEEK101A Maintain safety and tidiness of remote area power supply systems

UEENEEK102A Work safely with remote area power supply systems

UEENEEK116A Maintain and repair remote area power generation facilities

UEENEEK120A Maintain operation of remote area power generation plant

UETTDREL11 Apply sustainable energy and environmental procedures

UETTDREL16 Working safely near live electrical apparatus

UETTDNIS32 Solve electrical problems in remote community network apparatus

UETTDNIS33 Solve electrical problems in remote community network systems

UETTDNIS99 Test and verify distribution remote area installations

Competency Field

Industry Specific Cross Discipline

Unit Sector

Not applicable.

Elements and Performance Criteria

ELEMENTS

Elements describe the essential outcomes.

1 Prepare to install and maintain LV underground services in remote communities

PERFORMANCE CRITERIA

Performance criteria describe the performance needed to demonstrate achievement of the element.

- 1.1** Works schedules, construction plans, drawings, workplace procedures and material lists are received and confirmed
- 1.2** Job requirements and workplace procedures are identified and communicated with relevant personnel
- 1.3** Work health and safety (WHS)/occupational health and safety (OHS), environmental and workplace procedures for the installation and maintenance of LV underground services and associated equipment are obtained and confirmed for the purposes of the work to be performed
- 1.4** Work is prioritised and sequenced for completion within acceptable timeframes following consultation with relevant personnel and in accordance with workplace procedures
- 1.5** Hazards are identified, WHS/OHS risks assessed and control measures identified in accordance with workplace procedures

- | | | |
|----------|--|---|
| | 1.6 | Relevant work permits are obtained, understood and signed in accordance with workplace procedures |
| | 1.7 | Plant, equipment, tools and personal protective equipment (PPE) required for work are identified, obtained and confirmed in working order |
| | 1.8 | Worksite is prepared to minimise risk, damage to property, commerce and individuals in accordance with workplace procedures |
| | 1.9 | Traffic management plan is confirmed as being applied in accordance with workplace procedures |
| 2 | Carry out installation and maintenance of LV underground services in remote communities | |
| | 2.1 | Implemented hazard control measures are monitored in accordance with workplace procedures |
| | 2.2 | WHS/OHS, sustainable energy and environmental principles and practices are monitored and followed to reduce incidents in accordance with workplace procedures |
| | 2.3 | Requirements for lifting and/or climbing and/or working at heights and the use of power tools/equipment are followed in accordance with workplace procedures |
| | 2.4 | Remote community electrical network equipment is isolated, proved de-energised and earthing equipment installed, as required, in accordance with workplace procedures |
| | 2.5 | Installation and maintenance of LV underground services are completed in accordance with job requirements, work permits and workplace procedures |
| | 2.6 | Unplanned events are responded to in accordance with workplace procedures |
| | 2.7 | LV underground services are tested in accordance with job requirements and workplace procedures |
| | 2.8 | Quality checks of work are undertaken in accordance with workplace procedures |
| 3 | Complete installation and maintenance of LV underground services in | |
| | 3.1 | Completed work is checked against work schedule, construction plans and drawings for compliance and anomalies are reported in accordance with workplace |

remote communities

procedures

- 3.2 WHS/OHS and environmental incidents are reported in accordance with workplace procedures, as required
- 3.3 Worksite is rehabilitated, cleaned up and made safe in accordance with workplace procedures
- 3.4 Tools, equipment and surplus resources are, where appropriate, cleaned, checked and returned to storage in accordance with workplace procedures
- 3.5 Relevant work permits are relinquished and signed off in accordance with workplace procedures
- 3.6 Work records, reports and documentation are completed and relevant personnel notified in accordance with workplace procedures

Foundation Skills

Foundation skills essential to performance are explicit in the performance criteria of this unit of competency.

Range of Conditions

Range is restricted to essential operating conditions and any other variables essential to the work environment.

Non-essential conditions may be found in the Companion Volume Implementation Guide.

Unit Mapping Information

This unit replaces and is equivalent to UETTDRIS37A Install and maintain low voltage services in remote communities (underground).

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>

Assessment Requirements for UETTDRIS37 Install and maintain low voltage services in remote communities (underground)

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, including 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
- using specialist testing equipment, including at least four (4) of the following:
 - polarity test *
 - phase rotation test
 - continuity test
 - voltage test
 - insulation resistance test
 - (* must do)
- connecting LV underground service protection devices, including 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 pertaining to the installation, maintenance and connection of LV underground service lines and associated equipment
- types, sizes and characteristics of LV underground services - two-core, three-core, four-core, cable cross-sectional area of conductors, current ratings and cable insulation materials
- types and characteristics of LV service associated equipment - conduit, jointing gloves, cable labelling, pillars and pits
- requirements prior to the installation of underground service - service documentation, minimum depths to assets in ground, relevant electrical access permit and multiple earthed neutral (MEN) system
- types of installation plant, equipment and tools - service cable puller, shovels, stripping tool, aerial bundled cable (ABC) spanner, ABC spreader, spanners and screwdrivers
- installation techniques - methods of laying cable, terminating and effect of poor connections
- testing and commissioning underground services - continuity testing, insulation testing, polarity testing, phase sequencing and neutral integrity testing
- completing enterprise documentation
- techniques for the maintenance of underground services - inspection, types of faults, diagnosis and repair of faults, and removing and replacing services and fuses.

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 for installing and maintaining LV underground services in remote communities
- relevant and appropriate materials, tools, facilities, equipment and personal protective equipment (PPE) currently used in industry for installing and maintaining underground LV services in remote communities
- 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>