



Australian Government

UETTD RIS36 Install and maintain low voltage services in remote communities (overhead)

Release: 1

UETTDRI36 Install and maintain low voltage services in remote communities (overhead)

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 (overhead) in the electricity supply industry (ESI).

It includes the installation, maintenance and connection of LV overhead service lines and associated equipment between the connection point and the point of supply.

It also includes the repair and replacement of service cables, service fuses and the replacement and repair of service hardware, and the identification and rectification of faults. It also covers insulation, voltage, phase rotation and polarity testing.

All installation and maintenance of LV overhead services in remote communities must be undertaken in a non-energised (dead) environment other than for testing purposes.

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 overhead services in remote communities

PERFORMANCE CRITERIA

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

- 1.1** Work plan, construction plans, drawings, workplace procedures and material lists are received, confirmed and communicated with relevant personnel
- 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 overhead 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 and implemented in accordance with workplace procedures

- 1.6** Relevant work permits are obtained and signed in accordance with workplace procedures
 - 1.7** Plant, equipment, tools and personal protective equipment (PPE) required for work is 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 overhead 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 applied 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** LV field switching is performed in accordance with a given schedule and workplace procedures
 - 2.6** Installation and maintenance of LV overhead services, including mains, are completed in accordance with job requirements, work permits and workplace procedures
 - 2.7** Unplanned events are responded to in accordance with workplace procedures
 - 2.8** Earthing equipment is removed and remote community overhead network equipment is re-energised and returned to service in accordance with workplace procedures
 - 2.9** LV overhead services are tested in accordance with job requirements and workplace procedures

- | | | |
|--|-------------|---|
| | 2.10 | Quality checks of work are undertaken in accordance with workplace procedures |
| 3 Complete installation and maintenance of LV overhead services in remote communities | 3.1 | Completed work is checked against works schedule, construction plans and drawings for compliance and anomalies are reported in accordance with workplace procedures |
| | 3.2 | WHS/OHS and environmental incidents/accidents and injuries 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, are 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 UETTDRIS36A Install and maintain low voltage services in remote communities (overhead).

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 UETTDRIS36 Install and maintain low voltage services in remote communities (overhead)

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) overhead, including at least two (2) of the following:
 - overhead service line (three phase) *
 - overhead service line (single phase)
 - overhead service line (two phase)
 - (* must do)
- installing LV overhead associated equipment, including at least one (1) of the following:
 - service fuse
 - circuit breakers (pole)
 - service link
- testing LV overhead service connections, including all the following:
 - polarity test *
 - phase rotation test
 - continuity test
 - voltage test
 - (* must do)
- connecting LV overhead services, including at least one (1) of the following:
 - aluminium LV mains
 - copper LV mains
 - LV aerial bundled cable (ABC) mains
- 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 overhead service lines and associated equipment
- types, sizes and characteristics of LV overhead 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 - connectors, insulation piecing connectors (IPC's), service termination devices, fuse holders, fuses, service poles, point-of-attachment brackets and mains connection boxes
- requirements prior to the installation of overhead service - service documentation, minimum clearances to assets and ground, location of attachments, relevant electrical access permit, maximum span lengths and service cable tension and multiple earth neutral (MEN) system
- types of installation plant, equipment and tools -elevated work platform (EWP), ladders, service cable puller and tension tool, stripping tool, ABC spanner, ABC spreader, spanners and screwdrivers
- installation techniques - methods of stringing, tensioning and terminating, and effect of poor connections
- testing and commissioning overhead services - continuity testing, insulation testing, polarity testing, phase sequencing and neutral integrity testing
- completing enterprise documentation
- techniques for the maintenance of overhead 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 overhead services in remote communities
- relevant and appropriate materials, tools, facilities, equipment and personal protective equipment (PPE) currently used in industry for installing and maintaining overhead 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>