



Australian Government

UETTD RIS99 Test and verify distribution remote area installations

Release: 1

UETTDNIS99 Test and verify distribution remote area installations

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 test and verify distribution remote area installations in the electricity supply industry (ESI).

It includes inspection and testing to verify whether a distribution remote area installation is safe and complies with all requirements. It also includes working safely, visual inspections, mandatory, optional and functional test procedures, identifying non-compliance defects and mandatory reporting requirements.

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 requirement 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

UETTDRI532 Solve electrical problems in remote community network apparatus

UETTDRI533 Solve electrical problems in remote community network systems

Competency Field

Industry Specific Cross Discipline

Unit Sector

Not applicable.

Elements and Performance Criteria

ELEMENTS

Elements describe the essential outcomes.

1 Prepare to visually inspect, test and verify remote area distribution installation

PERFORMANCE CRITERIA

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

- 1.1** Work 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 accessing, testing and verification of overhead distribution installations 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** Specialist test and measurement equipment for testing and verification of overhead distribution installations are obtained, confirmed in working order and calibrated in accordance with workplace procedures
 - 1.9** Worksite is prepared to minimise risk, damage to property, commerce and individuals in accordance with workplace procedures
 - 1.10** Traffic management plan is confirmed as being applied in accordance with workplace procedures
- 2 Carry out visual inspection, testing and verification of remote area distribution installation**
- 2.1** WHS/OHS, sustainable energy and environmental principles and practices are monitored and followed to reduce incidents in accordance with workplace procedures
 - 2.2** 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
 - 2.3** Testing and verification of overhead distribution installations are completed in agreed timeframes, to quality standards and with minimum waste in accordance with workplace procedures
 - 2.4** Remote area distribution installations and associated hardware are visually inspected and confirmed as positioned, secured and terminated/connected in accordance with job requirements and workplace procedures
 - 2.5** Energised tests and/or measurements, as required to verify remote area distribution installations, are determined in accordance with job requirements and workplace procedures
 - 2.6** Remote area distribution installations are checked for suitability and compliance with workplace procedures and relevant electrical network supply industry standards
 - 2.7** Remote area distribution installation protection methods and devices are validated as meeting workplace procedures and relevant electrical distribution protection industry standards

- 2.8** Remote area distribution installation switchgear is validated as being appropriately rated and meeting functional requirements of workplace procedures and relevant electrical distribution network protection industry standards
 - 2.9** Remote area distribution installations earthing system and multiple earth neutral (MEN) system components are verified as correctly installed and conforming to workplace procedures and relevant electrical distribution network standards
 - 2.10** Mandatory testing of the distribution network system phasing, phase rotation, polarity, voltage and neutral conductors is undertaken and conforms to network construction standards
 - 2.11** Quality checks of work are undertaken in accordance with workplace procedures
- 3 Report inspection and test findings**
 - 3.1** WHS/OHS risk control work completion measures and procedures are followed
 - 3.2** Completed work is checked against work plan, construction plans and drawings for compliance and anomalies are reported in accordance with workplace procedures
 - 3.3** WHS/OHS and environmental incidents are reported in accordance with workplace procedures, as required
 - 3.4** Worksite is rehabilitated, cleaned up and made safe in accordance with workplace procedures
 - 3.5** Non-compliance defects are identified, corrected and/or reported in accordance with workplace procedures
 - 3.6** Recommendations for rectifying defects are made in accordance with workplace procedures
 - 3.7** Mandatory documentation is completed in accordance with workplace procedures
 - 3.8** Tools, equipment and surplus resources are, where appropriate, cleaned, checked and returned to storage in accordance with workplace procedures
 - 3.9** Relevant work permits are signed off and electrical equipment (network infrastructure) returned to service in

accordance with workplace procedures

- 3.10** Work records, reports and/or documentation are completed 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 UETTDRI99A Test and Verify Distribution Remote Area Installations.

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 UETTDRIS99 Test and verify distribution remote area installations

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
- inspecting overhead distribution poles and structures
- using testing/measuring devices, including at least three (3) of the following:
 - voltage detector*
 - clamp-on ammeter
 - multimeter
 - polarity tester
 - insulation resistance tester
 - phase sequence indicator*
 - earth resistance tester
 - recording meters
 - (*must do)
- completing distribution tests, including at least three (3) of the following:
 - distribution network voltage test*
 - neutral identification test*
 - earthing system resistance test
 - distribution system load current test
 - multiple earth neutral (MEN) system loop impedance test/continuity test
 - phase sequence test
 - (*must do)
- inspecting overhead installations from at least two (2) of the following:
 - elevated work platform (EWP)
 - ladder
 - portable platform
- using specialised protection equipment, including at least two (2) of the following:

- insulating mats
- temporary bridging device
- insulating gloves
- ladder/pole shrouds
- equipotential bonding
- earthing and short circuiting
- inspecting protection/switchgear equipment, including any one of the following:
 - fuse switches
 - dropout fuses
 - disconnectors
 - links fuses
 - surge arrestors
- inspecting overhead conductors, including any one of the following:
 - open wire overhead conductor
 - aerial bundled cable (ABC)/covered conductor type (CCT*)
 - low voltage (LV) services
 - (*must do)
- inspecting hardware attached to poles and structures, including any one of the following:
 - underground/overhead transition points
 - transformers
 - reactors
 - regulators.

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:

- legislated regulations, including:
 - legislation and regulations that require installations and equipment to be tested to ensure they are safe
 - the person/bodies responsible for the various aspects of ensuring distribution overhead installations are safe
 - results of tests that show a distribution remote area installation is safe for connection to the supply
 - results of periodic inspection and tests that show construction site wiring and equipment is safe to use
 - results of periodic inspection and tests that show the distribution remote area installations electrical equipment are safe to use
- testing installations, including:
 - distribution system phasing, phase rotation and polarity is correct and conforms to network construction standards

- electrical distribution network voltage levels comply with network supply standards
- potential present upon distribution network neutral conductors conform to network supply standards
- insulation resistance is adequate
- earthing system and MEN system components are verified as correctly installed
- documentation, including:
 - results of tests conducted on a distribution remote area installation in accordance with work requirements and ensuring the distribution installation is safe
 - documents of periodic inspection and testing of distribution remote area installation and equipment in accordance with requirements
 - non-compliances and defects reported in accordance with established procedures.

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 testing and verifying distribution remote area installations
- applicable documentation, including workplace procedures, network construction standards, network supply standards, 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>