



Australian Government

UETTD RTP99 Test and verify transmission overhead installations

Release: 1

UETTD RTP99 Test and verify transmission overhead 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 transmission overhead installations in the electricity supply industry (ESI).

It includes visual inspection and verification of maintenance requirements of de-energised transmission towers and associated hardware. It also includes repairing and replacing components in accordance with construction plans, specifications, work orders and workplace procedures, updating system data and records and completing relevant documentation.

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

UEENEEE104A Solve problems in d.c. circuits

UEENEEE105A Fix and secure electrotechnology equipment

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

UEENEEG101A Solve problems in electromagnetic devices and related circuits

UEENEEG102A Solve problems in low voltage a.c. circuits

UETTDREL11 Apply sustainable energy and environmental procedures

UETTDREL12 Operate plant and equipment near live electrical conductors and apparatus

UETTDREL16 Working safely near live electrical apparatus

UETTD RIS54 Install and maintain poles, structures and overhead conductors and cables

UETTD RTP26 Install transmission structures and associated hardware

UETTD RTP27 Maintain transmission structures and associated hardware

UETTD RTP29 Install and maintain transmission overhead conductors and cables

UETTD RTP30 Inspect transmission overhead structures and electrical apparatus

Competency Field

Transmission

Unit Sector

Not applicable.

Elements and Performance Criteria

ELEMENTS

Elements describe the essential outcomes.

1 Prepare to inspect, verify and replace or repair overhead transmission installations

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 transmission overhead 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 are assessed and control measures identified in accordance with workplace procedures
- 1.6** Relevant work permits are confirmed and signed in accordance with workplace procedures

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| | 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 Inspect, verify and replace or repair overhead transmission installations | 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 verifying transmission of overhead installations is completed in agreed timeframes and to quality standards with a minimum of waste in accordance with workplace procedures |
| | 2.4 | Overhead transmission installations are confirmed as de-energised and able to be earthed in accordance with workplace earthing procedures |
| | 2.5 | Overhead transmission installations and associated hardware are visually inspected and confirmed as positioned, secured and terminated/connected in accordance with job requirements and workplace procedures |
| | 2.6 | Overhead transmission installations are checked for suitability and compliance with workplace construction standards and relevant electrical network supply industry standards |
| | 2.7 | Quality checks of work are undertaken in accordance with workplace procedures |
| 3 Complete inspection, verification and replacement or repair of overhead transmission installations | 3.1 | WHS/OHS risk control work completion measures and procedures are followed |

- 3.2 Completed work is checked against work schedule, 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 and materials 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) are 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 UETTD RTP99A Test and verify transmission overhead

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 UETTD RTP99 Test and verify transmission overhead installations

Modification History

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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
- using at least two (2) of the following methods:
 - visual*
 - infra-red camera
 - X-ray
 - camera
 - binoculars/telescope
 - (* must do)
- inspecting structures including at least one (1) of the following:
 - pyramid
 - delta pi
 - enterprise specific type
- installing associated hardware including at least three (3) of the following:
 - insulators
 - clamps
 - bolts
 - conductor spacers
 - vibration dampers
 - structural components
- inspecting conductors including at least one (1) of the following:
 - copper
 - aluminium
 - steel
 - aluminium/steel reinforced
- undertaking work activities from at least two of the following:

- elevated work platform (EWP)
- portable platform
- gondola
- hook ladder*
- elevated work box (EWB)
- (*must do)
- using specialised equipment including all of the following:
 - voltage/de-energised indicating device
 - earthing conductors
- complying with all of the following:
 - reporting procedures
 - reporting outcomes

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 inspected and tested to ensure they are safe
 - the person/bodies responsible for the various aspects of ensuring transmission overhead installations are safe
 - results of inspections and tests that show transmission overhead installation is safe for connection to the supply
 - results of periodic inspection and tests that show construction and installation of equipment is safe to use
 - results of periodic inspection and tests that show the transmission overhead installations electrical equipment are safe to use
- testing installations, including:
 - transmission system phasing is correct and conforms to network construction standards
 - electrical transmission network voltage levels comply with network supply standards
 - potential present upon transmission network neutral conductors conforms network supply standards
 - insulation resistance is adequate
 - transmission earthing system components are verified as correctly installed
- documentation, including:
 - results of inspections and tests conducted on a transmission overhead installation are in accordance with work requirements and ensure the transmission overhead installation is safe
 - documents of periodic inspection and testing of transmission overhead 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 transmission overhead installations
- network constructions and network supply standards
- 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>