



Australian Government

UETTD RTP29 Install and maintain transmission overhead conductors and cables

Release: 1

UETTD RTP29 Install and maintain transmission overhead conductors and cables

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 transmission overhead conductors and cables in the electricity supply industry (ESI).

It includes installing and maintaining overhead conductors and cables used on towers including stringing, tensioning and terminating of conductor/cable while de-energised, securing conductor to the insulators or supports and performing the electrical connections. It also includes maintenance work associated with phasing, completing workplace tests, isolating systems and circuits, accepting/issuing electrical permits and updating of system data/maintenance records.

No licensing, legislative or certification requirements apply to this unit at the time of publication.

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

UEENEEE105A Fix and secure electrotechnology equipment

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

UETTDREL11 Apply sustainable energy and environmental procedures

UETTDREL16 Working safely near live electrical apparatus

UETTD RTP26 Install transmission structures and associated hardware

UETTD RTP27 Maintain transmission structures and associated hardware

Competency Field

Transmission

Unit Sector

Not applicable.

Elements and Performance Criteria

ELEMENTS

Elements describe the essential outcomes.

1 Prepare for installation and maintenance of overhead conductors and cables used on towers

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 the installation and maintenance of overhead conductors and cables used on towers 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
- 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

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| 2 Carry out installation and maintenance of overhead conductors and cables used on towers | 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 Systems and circuits are isolated and proved safe to work in accordance with job requirements, work permits and workplace procedures |
| | 2.4 Installation and maintenance of overhead conductors and cables are completed in agreed timeframes, to quality standards and with minimum waste in accordance with requirements |
| | 2.5 Overhead conductor/cables are strung, tensioned and terminated in accordance with workplace procedures |
| | 2.6 Conductors, anti-vibration devices and spaces/spreaders are secured in accordance with workplace procedures |
| | 2.7 Electrical connections are made in accordance with the workplace procedures |
| | 2.8 Maintenance, including repair and/or replacement of overhead conductors and cables, is performed in accordance with workplace procedures |
| | 2.9 Unplanned events are responded to in accordance with workplace procedures |
| | 2.10 Quality checks of work are undertaken in accordance with workplace procedures |
| 3 Complete installation and maintenance of overhead conductors and cables used on towers | 3.1 Completed work is checked against work schedule, construction plans and drawings for compliance and anomalies are reported in accordance with workplace 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 and materials |

are, where appropriate, cleaned, checked and returned to storage in accordance with workplace procedures

- 3.5** Relevant work permits are signed off and overhead conductors and cables used on towers are returned to service in accordance with workplace procedures
- 3.6** 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 RTP29A Install and maintain transmission overhead conductors and cables.

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 RTP29 Install and maintain transmission overhead conductors and cables

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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 one (1) of the following:
 - copper
 - aluminium
 - steel
 - composite
 - aluminium/steel reinforced
 - pilot
- operating from at least two (2) of the following:
 - elevated work platform (EWP)
 - portable platform
 - gondola
 - hook ladder*
 - elevated work box (EWB)
 - (*must do)
- using at least five (5) of the following:
 - winches*
 - tension equipment*
 - stringing equipment
 - cable trailers
 - crimping equipment *
 - pre-formed splices
 - hardware
 - cable drum stands
 - ropes

- rollers/ sheaves
- comealongs
- swivels
- (*must do)
- using at least two (2) of the following:
 - voltage/de-energised indicating device
 - field intensity meter
 - operating rods
 - (*must do)
- using at least one (1) of the following:
 - dynamometer
 - site board
 - abney level
 - sag chart*
 - theodolite
 - (*must do)
- 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:

- limits of approach for personnel, vehicles, mobile plant and (EWP)
- requirements of persons prior to making bare hand contact with dead low voltage (LV)mains and apparatus
- requirements of relevant electrical access permits necessary to allow work to be performed on LV and high voltage (HV)apparatus
- safe working practices, including:
 - requirements to enable safe working on conductive poles
 - procedures to attach an on-site earthing device to de-energised LV and HV overhead circuit
 - safe working practices when working with associated hardware/equipment and insulators
 - precautions of voltages on transmission structures
 - dangers when working at heights
 - identification of hazards, assessing and controlling risks
 - types, selection, maintenance and uses of personnel protective equipment (PPE)
 - permit to work systems and isolation procedures
 - safe working practices when using specialised equipment
 - emergency response and rescue procedures, including first.

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 PPE currently used in industry for installing and maintaining transmission overhead conductors and cables
- applicable documentation, including workplace procedures, relevant industry standards, equipment specifications, regulations, codes of practice and operation manuals.

Links

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