



Australian Government

UETDRTO006 Install and maintain transmission conductors

Release: 1

UETDRTO006 Install and maintain transmission conductors

Modification History

Release 1. This is the first release of this unit of competency in the UET Transmission, Distribution and Rail Sector Training Package Release 2.0.

Application

This unit involves the skills and knowledge required to install and maintain transmission conductors in the electricity supply industry (ESI).

It includes installing and maintaining de-energised and isolated conductors and hardware used on towers and poles, including stringing, tensioning, terminating and performing the electrical connections.

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

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

Pre-requisite Unit

CPCCLRG3001 Licence to perform rigging basic level

UEECD0007 Apply work health and safety regulations, codes and practices in the workplace

UEECD0019 Fabricate, assemble and dismantle utilities industry components

UEECD0051 Use drawings, diagrams, schedules, standards, codes and specifications

UETDREL001 Apply environmental requirements

UETDREL004 Operate plant and equipment in the vicinity of live electrical apparatus

UETDREL005 Work safely in the vicinity of live electrical apparatus

UETDRTO007 Install and maintain transmission structures and hardware

Competency Field

Transmission Overhead

Unit Sector

Not applicable.

Elements and Performance Criteria

ELEMENTS

Elements describe the essential outcomes.

PERFORMANCE CRITERIA

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

1 Prepare for installation and maintenance of transmission conductors

- 1.1** Legislation, regulations, standards, codes of practice and organisational workplace requirements for the work to be performed are referred to and confirmed
- 1.2** Work plan is obtained and confirmed in accordance with workplace requirements
- 1.3** Materials required for work are determined and obtained in accordance with work plan and workplace requirements
- 1.4** Plant, tools, equipment and personal protective equipment (PPE) required for work are determined, obtained and confirmed in working order
- 1.5** Hazards are identified, risks assessed and control measures identified and applied
- 1.6** Safety observer role and responsibilities are discussed and confirmed in accordance with workplace requirements
- 1.7** Communication method between the workers and safety observer is determined and confirmed in accordance with workplace requirements
- 1.8** Safe approach distances for the work to be performed are determined and confirmed in accordance with workplace requirements
- 1.9** Work is prioritised and sequenced for completion in accordance with work plan and workplace requirements
- 1.10** Work permits are received and signed in accordance with workplace requirements
- 1.11** Worksite is prepared in accordance with the work plan and workplace requirements
- 1.12** Traffic management plan is confirmed as being in place in accordance with workplace requirements

2 Carry out installation of

- 2.1** Legislation, regulations, standards, codes of practice and

transmission conductors	organisational workplace requirements for the work to be performed are applied and monitored
2.2	Lifting, working at heights and the use of plant, tools, equipment and PPE are carried out in accordance with workplace requirements
2.3	Hazard control measures are monitored in accordance with workplace requirements
2.4	Safety observer is positioned to observe the work in accordance with workplace requirements
2.5	Communication methods between workers and safety observer are used in accordance with workplace requirements
2.6	Safe approach distances are maintained when the work is being performed
2.7	Working earths are installed in accordance with workplace requirements
2.8	Conductors are strung, tensioned and terminated in accordance with workplace requirements
2.9	Conductor hardware is installed in accordance with workplace requirements
2.10	Electrical connections are made in accordance with the workplace requirements
2.11	Incidents or unplanned events are responded to in accordance with workplace requirements
2.12	Quality checks of work are undertaken in accordance with work plan and workplace requirements
3 Carry out maintenance of transmission conductors	3.1 Legislation, regulations, standards, codes of practice and organisational workplace requirements for the work to be performed are applied and monitored
	3.2 Lifting, working at heights and the use of plant, tools, equipment and PPE are carried out in accordance with workplace requirements
	3.3 Hazard control measures are monitored in accordance with workplace requirements

- 3.4 Safety observer is positioned to observe the work in accordance with workplace requirements
- 3.5 Communication methods between workers and safety observer are used in accordance with workplace requirements
- 3.6 Safe approach distances are maintained when the work is being performed
- 3.7 Working earths are installed in accordance with workplace requirements
- 3.8 Conductors are repaired and/or replaced in accordance with workplace requirements
- 3.9 Conductor hardware is replaced in accordance with workplace requirements
- 3.10 Electrical connections are made in accordance with the workplace requirements
- 3.11 Incidents or unplanned events are responded to in accordance with workplace requirements
- 3.12 Quality checks of work are undertaken in accordance with work plan and workplace requirements
- 4 **Complete work and documentation**
 - 4.1 Completed work is checked for compliance against the work plan and workplace requirements
 - 4.2 Incidents or unplanned events are reported in accordance with workplace requirements
 - 4.3 Worksite is rehabilitated, cleaned and made safe in accordance with workplace requirements
 - 4.4 Plant, tools and equipment are cleaned, checked and returned to storage in accordance with workplace requirements
 - 4.5 Surplus materials are returned to storage or disposed of in accordance with workplace requirements
 - 4.6 Working earths are removed in accordance with workplace requirements
 - 4.7 Work permits are signed off in accordance with workplace requirements

- 4.8** Work records, reports and documentation are completed in accordance with workplace requirements

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 UET Transmission, Distribution and Rail Sector Training Package Companion Volume Implementation Guide.

Unit Mapping Information

This unit replaces and is equivalent to UETTD RTP29 Install and maintain transmission overhead conductors and cables.

Links

Companion Volume Implementation Guides are found in VETNet -
<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=229bace1-b7bc-4653-9300-dffb13ecfad7>

Assessment Requirements for UETDRT0006 Install and maintain transmission conductors

Modification History

Release 1. This is the first release of this unit of competency in the UET Transmission, Distribution and Rail Sector Training Package Release 2.0.

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 legislation, regulations, standards, codes of practice and organisational workplace requirements, including:
 - work health and safety (WHS)/occupational health and safety (OHS)
 - safe approach distances
- identifying hazards, assessing risks, identifying, applying and monitoring control measures
- obtaining, inspecting and using relevant personal protective equipment (PPE)
- obtaining and signing on and off relevant work permits in accordance with workplace requirements
- installing and maintaining conductor
- working from at least two (2) of the following:
 - hook ladder*
 - elevated work platform (EWP)
 - portable platform
 - gondola
 - conductor trolley
 - helicopter
 - elevated work box (EWB)
 - (*must do)
- using at least five (5) of the following stringing equipment:
 - crimping equipment
 - conductor winches
 - lever hoist
 - conductor trailers/jinker
 - pre-formed splices
 - conductor drum stands
 - draw wire
 - rollers/sheaves

- conductor grip
- conductor stockings
- swivels
- creating an equipotential zone in accordance with workplace requirements
- using testing equipment in accordance with workplace requirements
- using tensioning/sagging equipment in accordance with workplace requirements
- dealing with an unplanned event on at least one (1) occasion
- completing relevant work records, reports and documentation.

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:

- relevant legislation, regulations, standards, codes of practice, and organisational workplace requirements, including:
 - WHS/OHS
 - safe approach distances
 - working earths
- hazard, risk assessment and risk control requirements
- potential hazards, including:
 - induced voltages
 - currents
- types and application of PPE
- conductor types and characteristics
- conductor clearances
- stringing methods
- conductor protective hardware, including:
 - types and selection of common dampers, tools and equipment
 - control of Aeolian vibration
- safe use of plant, tools and equipment
- application, purpose and types of permits
- events constituting an unplanned event or incident
- procedures for responding to an unplanned event or incident.

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:

- relevant and appropriate materials, tools, facilities, equipment and PPE currently used in industry for installing and maintaining transmission conductors
- applicable documentation, including workplace requirements, relevant industry standards, equipment specifications, regulations, codes of practice and operation manuals.

Links

Companion Volume Implementation Guides are found in VETNet -

<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=229bace1-b7bc-4653-9300-dffb13ecfad7>