



Australian Government

UETDRIS007 Install and maintain distribution overhead conductors and cables

Release: 1

UETDRIS007 Install and maintain distribution 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 Release 2.0.

Application

This unit involves the skills and knowledge required to install and maintain distribution overhead conductors and cables used on poles and structures in the electricity supply industry (ESI).

It includes stringing, tensioning, terminating and securing conductors and cables to insulators or supports and carrying out electrical connections.

It also includes the repairing or replacement of conductors and cables, testing and updating system data/maintenance records.

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 requirement which must be confirmed prior to commencing this unit.

Pre-requisite Unit

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

UETDRIS012 Install and maintain poles, structures and hardware

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 overhead conductors and cables

PERFORMANCE CRITERIA

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

- 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** Work is prioritised and sequenced for completion in accordance with work plan and workplace requirements
- 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 permits are received and signed in accordance with workplace requirements
- 1.10** Plant, tools, equipment and personal protective equipment (PPE) required for work are determined, obtained and confirmed in working order
- 1.11** Worksite is prepared in accordance with the work plan and workplace requirements
- 1.12** Traffic management plans are confirmed as being in place in accordance with workplace requirements

2 Carry out installation and

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

maintenance of overhead conductors and cables	organisational workplace requirements for the work to be performed are applied and monitored
2.2	Lifting, climbing, working at heights and 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	Overhead conductors and cables are strung, tensioned, terminated and secured in accordance with the work plan and workplace requirements
2.8	Overhead conductor and cable electrical connections are completed in accordance with the work plan and workplace requirements
2.9	Repair or replacement of overhead conductors and cables is completed in accordance with the work plan and workplace requirements
2.10	Anti-vibration devices or spreaders are installed in accordance with the work plan and workplace requirements
2.11	Conductors and cables are tested in accordance with the work plan and workplace requirements
2.12	Incidents or unplanned events are responded to in accordance with workplace requirements
2.13	Quality checks of work are undertaken in accordance with work plan and workplace requirements
3 Complete work and documentation	
3.1	Completed work is checked for compliance against the work plan and workplace requirements
3.2	Incidents or unplanned events are reported in accordance with workplace requirements

- 3.3 Worksite is rehabilitated, cleaned and made safe in accordance with workplace requirements
- 3.4 Plant, tools and equipment are cleaned, checked and returned to storage in accordance with workplace requirements
- 3.5 Surplus materials are returned to storage or disposed of in accordance with workplace requirements
- 3.6 Work permits are signed off in accordance with workplace requirements
- 3.7 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 UETTDRI54 Install and maintain poles, structures and 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 UETDRIS007 Install and maintain distribution overhead conductors and cables

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 legislation, regulations, standards, codes of practice and organisational workplace requirements, including:
 - work health and safety (WHS)/occupational health and safety (OHS)
- identifying hazards, assessing risks, identifying, applying and monitoring control measures
- obtaining, inspecting and using relevant personal protective equipment (PPE)
- determining communication method with safety observer
- confirming safety observer is in position in accordance with workplace requirements
- installing at least two (2) types of overhead conductors/cables
- connecting and terminating conductors and cables in accordance with workplace requirements
- repairing overhead conductors/cables using at least two (2) of the following:
 - compression sleeves
 - splice
 - bullets
 - mid span joint
 - armour rods
- terminating conductors and cables
- connecting conductors and cables
- using at least two (2) types of height access methods
- using at least one (1) of the following types of stringing methods:
 - layout
 - pull through
 - pilot rope
- using at least three (3) of the following types of stringing equipment:
 - cable drum stands
 - cable trailers
 - ropes

- rollers
- sheaves
- stockings
- swivels
- winches
- using at least one (1) of the following tensioning methods:
 - dynamometer
 - site board
 - beat (wave sagging)
 - theodolite
- using testing equipment in accordance with workplace requirements
- recording test results in accordance with workplace requirements
- dealing with an unplanned event on at least one (1) occasion
- obtaining and signing on and off relevant work permits in accordance with workplace requirements
- 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
- hazard, risk assessment and risk control requirements, including potential hazards
- types and application of PPE
- safe work practices, including:
 - working on conductive poles
 - short circuiting/earthing de-energised low voltage (LV) and high voltage (HV) circuits
 - safe use of plant and equipment
- application, purpose and types of work permits
- events constituting an unplanned event or incident
- procedures for responding to an unplanned event or incident
- safety observer:
 - role and responsibilities
 - communication methods
- construction manuals, tension charts/tables, system diagrams/plans and drawings
- types, sizes, properties and characteristics of overhead conductors/cables
- types of LV and HV overhead conductor/cable connections
- types of LV and HV overhead conductor/cable terminations
- causes and effects of poor electrical connections

- overhead conductor/cable clearances, including:
 - to ground
 - to LV/HV structures
 - waterways
 - carriageways
 - buildings
 - bridges
 - railways
- techniques for conductor/cable installation, including:
 - types and application of tools, equipment and hardware
 - procedures for stringing, tensioning and termination of LV and HV conductors/cables.

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 distribution overhead conductors and cables
- applicable documentation, including workplace requirements, relevant industry standards, equipment specifications, regulations, codes of practice and operation manuals.

Links

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