



Australian Government

UETDRT0011 Maintain energised transmission lines using live work barehand techniques

Release: 1

UETDRTO011 Maintain energised transmission lines using live work barehand techniques

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 maintain energised transmission lines using live work barehand techniques in the electricity supply industry (ESI).

It includes the calculation of physical loads and the use and maintenance of specialised tools and equipment, live work authorities/permits and disabling the automatic re-closing device.

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

UETDRTO012 Maintain energised transmission lines using live work stick techniques

Competency Field

Transmission Overhead

Unit Sector

Not applicable.

Elements and Performance Criteria

ELEMENTS

Elements describe the essential outcomes.

1 Prepare to maintain energised transmission

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

lines	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 Work is prioritised and sequenced for completion in accordance with work plan and workplace requirements
	1.7 Work permits are received and signed in accordance with workplace requirements
	1.8 Auto-reclose devices and associated circuits are rendered inoperative in accordance with workplace requirements
	1.9 Safety observer role and responsibilities are discussed and confirmed in accordance with workplace requirements
	1.10 Communication method between the workers and safety observer is determined and confirmed in accordance with workplace requirements
	1.11 Minimum approach distances for the work to be performed are determined and confirmed in accordance with workplace requirements
	1.12 Worksite is prepared in accordance with the work plan and workplace requirements
	1.13 Traffic management plan is confirmed as being in place in accordance with workplace requirements
2 Perform maintenance of energised transmission lines	2.1 Legislation, regulations, standards, codes of practice and 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 Minimum approach distances are maintained when the work is being performed
 - 2.7 Energised overhead electrical transmission apparatus is maintained in accordance with the work plan and workplace requirements
 - 2.8 Incidents or unplanned events are responded to in accordance with workplace requirements
 - 2.9 Quality checks of work are undertaken in accordance with work plan and workplace requirements
- 3 Complete work 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 UETTDRT32 Maintain energised transmission lines using high voltage live work Barehand method.

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 UETDRT0011 Maintain energised transmission lines using live work barehand techniques

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)
 - minimum approach distances
- identifying hazards, assessing risks, identifying, applying and monitoring control measures
- obtaining, inspecting and using relevant personal protective equipment (PPE)
- inspecting, fitting and testing conductive suit
- obtaining and signing on and off relevant work permits in accordance with workplace requirements
- determining communication method with safety observer
- confirming safety observer is in position in accordance with workplace requirements
- calculating conductor load
- accessing work zone using at least two (2) of the following methods:
 - insulated ladder
 - elevated work platform (EWP)
 - elevated work box (EWB)
 - rope
- confirming the electrical integrity of insulators
- completing at least three (3) of the following tasks using live work barehand techniques:
 - replacing strain insulators*
 - replacing/connecting bridge/bonding connections*
 - replacing suspension insulators
 - replacing vibration dampers
 - repairing/replacing conductor spacers
 - repairing/replacing conductor joints
 - repairing conductors
 - (*must do)

- 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
 - minimum approach distances
 - working on energised lines utilising live work barehand techniques
 - emergency response and rescue procedures
- hazard, risk assessment and risk control requirements, including potential hazards
- types and application of PPE
- 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
- safety observer:
 - role and responsibilities
 - communication methods
- roles and responsibilities of team members
- calculation of forces supported by live working equipment
- electrical and electrostatic principles, including:
 - relationship of the resistance of a human body to different levels of current and voltage
 - relationship of a human body to an electric field
 - effects of electrostatic induction
 - relationship of phase voltage and respective line voltages
 - effect of distance
 - potential of an object within the field and the effect of distances to the potential
 - Faraday's cage - effects of a body, advantages, description of the Faraday's cage used by bare hand live-line workers
 - lighting and switching surges
- application and function of extra-high voltage (EHV) auto-reclosing suppression
- testing, types, selection, maintenance and storage of specialised equipment:
 - conductive suit
 - insulated boom EWP
 - plant and tools
 - PPE
 - ropes

- sticks
- live work barehand techniques for maintaining energised transmission lines in accordance with workplace requirements
- electrical integrity of insulators, including:
 - visual and audible assessment
 - disc voltage difference
 - condition of insulator string.

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:

- materials, tools, equipment and PPE currently used for maintaining energised transmission lines using live work barehand techniques
- applicable documentation, including workplace requirements, equipment specifications, regulations, codes of practice and operation manuals.

Links

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