



Australian Government

UETDRDO003 Maintain energised high voltage distribution overhead electrical apparatus (glove and barrier)

Release: 1

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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 energised high voltage (HV) overhead electrical apparatus using glove and barrier in the electricity supply industry (ESI).

It includes gaining network access approval, verifying site conditions and potential hazards, calculating physical loads and selecting appropriate work techniques.

It also includes preparing, using and maintaining specialised insulated tools and equipment.

This unit is subject to the following requirements for entry:

- *Certificate III in ESI - Distribution Overhead - powerline worker qualification or equivalent.*

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

Not applicable, refer to unit application.

Competency Field

Distribution Overhead

Unit Sector

Not applicable.

Elements and Performance Criteria

ELEMENTS

PERFORMANCE CRITERIA

Elements describe the essential outcomes.

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

1 Plan to maintain energised HV distribution overhead electrical apparatus (glove and barrier)

- 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** Loads/forces are calculated in accordance with workplace requirements
- 1.5** Plant, tools, equipment and personal protective equipment (PPE) required for work are determined, obtained and confirmed in working order
- 1.6** Hazards are identified, risks assessed and control measures identified and applied
- 1.7** Safety observer role and responsibilities are discussed and confirmed in accordance with workplace requirements
- 1.8** Communication method between the workers and safety observer is determined and confirmed in accordance with workplace requirements
- 1.9** Safe approach distances for the work to be performed are determined and confirmed in accordance with workplace requirements
- 1.10** Work permit/approval is organised in accordance with workplace requirements
- 1.11** Work is prioritised and sequenced for completion in accordance with work plan and 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 Carry out maintenance of energised HV distribution overhead electrical apparatus (glove and barrier)

- 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** Work permit/approval is obtained to commence the work in accordance with workplace requirements
- 2.5** Safety observer is positioned to observe the work in accordance with workplace requirements
- 2.6** Communication methods between workers and safety observer are used in accordance with workplace requirements
- 2.7** Safe approach distances are maintained when the work is being performed
- 2.8** Energised HV distribution overhead electrical apparatus is installed and maintained in accordance with the work plan and workplace requirements
- 2.9** Work permit/approval is cancelled or relinquished in accordance with workplace requirements
- 2.10** Incidents or unplanned events are responded to in accordance with workplace requirements
- 2.11** 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 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 UETTDRDP14 Maintain energised HV distribution overhead electrical apparatus (glove).

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 UETDRDO003 Maintain energised high voltage distribution overhead electrical apparatus (glove and barrier)

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/replacing all of the following:
 - structure
 - cross-arm
 - strain insulator
 - pin insulator
 - connecting bridge/bonding connections
- installing/maintaining at least four (4) of the following:
 - pole mounted reclosers
 - air brake switches
 - high voltage (HV) links/disconnects
 - temporary HV links/HV fuses
 - expulsion drop-out fuses
 - lightning arrestors
 - conductors
 - vibration dampers, line splices, armour rods or aircraft warning markers
- working from an approved elevated work platform (EWP)
- using at least one (1) of the following testing and recording devices:
 - amp meter
 - insulation test equipment

- leakage detector
- voltage detector
- dealing with an unplanned event on at least one (1) occasion
- organising, issuing, cancelling or relinquishing relevant work permits/approvals 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
 - live work up to and including 33 kV HV glove and barrier principles, techniques and 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 work permits
- events constituting an unplanned event or incident
- procedures for responding to an unplanned event or incident
- safety precautions for HV live distribution glove and barrier work, including:
 - minimum approach distances/safe approach distances
 - effects of excessive conductor temperature on insulating equipment
 - types and application of PPE
 - integrity of insulation
 - emergency response, first aid and rescue
 - disabling auto-reclose function
 - network access and communication
- definition of terms for HV live work glove and barrier method
- mobile plant, including:
 - types
 - care and maintenance
 - frequency of testing
 - earthing
- insulated barriers, sticks, tools and equipment, including:
 - types, construction and characteristics
 - application
 - care and maintenance
 - frequency of testing

- gloves and sleeves, including:
 - types, construction and characteristics
 - application
 - care and maintenance
 - frequency of testing
- operational use of plant, sticks, tools and equipment, including:
 - conductor support
 - selecting conductor support method
 - calculation of loads
 - effects of secondary loadings/forces
 - effects of resultant forces
 - conductor support rigging procedures
- safety observer:
 - role and responsibilities
 - communication methods.

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, equipment and PPE currently used in industry to maintain energised HV distribution overhead electrical apparatus (glove and barrier)
- applicable documentation, including workplace requirements, equipment specifications, regulations, codes of practice and operation manuals.

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