



Australian Government

UETTDRDP99 Test and verify distribution overhead installations

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.

Application

This unit involves the skills and knowledge required to test and verify distribution overhead installations in the electricity supply industry (ESI).

It includes inspecting and testing processes necessary for verifying overhead distribution installations. It also includes using safe work practices and compliance with all requirements of visual inspections, mandatory, optional and functional test procedures, identifying non-compliance defects and reporting requirements.

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

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

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

UEENEEE104A Solve problems in d.c. circuits

UEENEEE105A Fix and secure electrotechnology equipment

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

UEENEEG101A Solve problems in electromagnetic devices and related circuits

UEENEEG102A Solve problems in low voltage a.c. circuits

UETTDRDP11 Inspect overhead poles-structures and electrical apparatus

UETTDRDP12 Maintain overhead energised low voltage conductors and cables

UETTDRDP11 Apply sustainable energy and environmental procedures

UETTDRDP12 Operate plant and equipment near live electrical conductors and apparatus

UETTDRDP16 Working safely near live electrical apparatus

UETTDRDP41 Install network infrastructure electrical equipment

UETTD R IS42 Maintain network infrastructure electrical equipment

UETTD R IS52 Install and maintain poles, structures and associated hardware

UETTD R IS54 Install and maintain poles, structures and overhead conductors and cables

UETTD R IS56 Install and maintain low voltage overhead services

Competency Field

Distribution

Unit Sector

Not applicable.

Elements and Performance Criteria

ELEMENTS

Elements describe the essential outcomes.

1 Prepare to inspect, test and verify overhead distribution installation

PERFORMANCE CRITERIA

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

- 1.1** Works 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 accessing, testing and verifying overhead distribution installations 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 assessed and control measures identified in accordance with workplace procedures
- 1.6** Relevant work permits are obtained, understood 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 Specialist test and measurement equipment for testing and verification of overhead distribution installations are obtained, inspected and confirmed in working order and calibrated in accordance with requirements and workplace procedures
 - 1.9 Worksite is prepared to minimise risk, damage to property, commerce and individuals in accordance with workplace procedures
 - 1.10 Personnel participating in work are fully briefed and responsibilities confirmed in accordance with workplace procedures
 - 1.11 Traffic management plan is confirmed as being applied in accordance with workplace procedures
- 2 **Carry out inspection, testing and verification of overhead distribution installation**
 - 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 Inspection, safe access, testing and verification of overhead distribution installations are completed in agreed timeframes, to quality standards and with a minimum of waste in accordance with workplace procedures
 - 2.4 Overhead distribution installations and associated hardware are visually inspected, positioned, secured and terminated/connected in accordance with workplace procedures
 - 2.5 Energised tests and/or measurements to verify overhead distribution installations are determined in accordance with workplace safety procedures and relevant industry standards, as required
 - 2.6 Overhead distribution installations are checked for suitability and conformance with workplace procedures and relevant electrical network supply industry

standards

- 2.7** Overhead distribution installation protection methods and devices are validated in accordance with workplace procedures and relevant distribution network protection industry standards
- 2.8** Overhead distribution installation switchgear is validated in accordance with workplace procedures and relevant distribution network protection industry standards
- 2.9** Overhead distribution installations earthing systems and multiple earth neutral (MEN) system components are verified as correctly installed and conforming to workplace procedures and relevant distribution network industry standards
- 2.10** Mandatory tests are conducted to verify overhead distribution installation system voltage, phasing, phase rotation, polarity and neutral potential comply with relevant industry standards
- 2.11** Solutions used to solve overhead distribution installation problems are applied in accordance with workplace procedures
- 2.12** Quality checks of work are undertaken in accordance with workplace procedures

3 Report inspection and test findings

- 3.1** Hazards are identified, risks assessed and control measures implemented
- 3.2** Completed work is checked against work schedule, construction plans and drawings for compliance and anomalies are reported in accordance with workplace procedures
- 3.3** WHS/OHS and environmental incidents are reported in accordance with workplace procedures, as required
- 3.4** Worksite is rehabilitated, cleaned up and made safe and in accordance with workplace procedures
- 3.5** Non-compliance defects are identified, corrected and/or reported in accordance with workplace procedures
- 3.6** Recommendations for rectifying defects are made in accordance with workplace procedures

- 3.7** Mandatory documentation is completed in accordance with workplace procedures and relevant industry standards
- 3.8** Tools, equipment and surplus resources are, where appropriate, cleaned, checked and returned in accordance with workplace procedures
- 3.9** Relevant work permits are signed off and electrical equipment (network infrastructure) are returned to service in accordance with workplace procedures
- 3.10** 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 UETTDRDP99A Test and verify distribution overhead installations.

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 UETTDRDP99 Test and verify distribution overhead installations

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 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 inspection methods, including at least two (2) of the following:
 - visual*
 - infra-red camera
 - X-Ray
 - camera
 - binoculars/telescope
 - (* must do)
- inspecting structures, including any one (1) of the following:
 - pyramid
 - delta pi
 - enterprise specific type
- installing associated hardware, including at least three (3) of the following:
 - insulators
 - clamps
 - bolts
 - conductor spacers
 - vibration dampers
 - structural components
- inspecting conductors, including at least one (1) of the following:
 - copper
 - aluminium
 - steel
 - aluminium/steel reinforced
- inspecting overhead installations from at least two (2) of the following:

- elevated work platform (EWP)*
- portable platform
- gondola
- hook ladder
- elevated work box
- (*must do)
- using specialist equipment, including all of the following:
 - voltage/de-energised indicating device
 - earthing conductors
- complying with all of the following:
 - reporting procedures
 - reporting outcomes.

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:

- legislated regulations, including:
 - legislation and regulations that require installations and equipment to be tested to ensure they are safe
 - the person/bodies responsible for the various aspects of ensuring distribution overhead installations are safe
 - results of tests that show a distribution overhead installation is safe for connection to the supply
 - results of periodic inspection and tests that show construction site wiring and equipment is safe to use
 - results of periodic inspection and tests that show the distribution overhead installations electrical equipment are safe to use
- testing installations, including:
 - distribution system phasing, phase rotation and polarity is correct and conforms to network construction standards
- documentation, including:
 - results of tests conducted on a distribution overhead installation in accordance with work requirements and ensure the distribution overhead installation is safe
 - documents of periodic inspection and testing of distribution overhead installation and equipment in accordance with requirement
 - non-compliances and defects reported in accordance with established procedures.

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 personal protective equipment (PPE) currently used in industry for testing and verifying distribution overhead installations
- applicable documentation, including workplace procedures, relevant industry standards, equipment specifications, regulations, codes of practice and operation manuals.

Links

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