



Australian Government

**Assessment Requirements for
UETDRTO009 Install/maintain
transmission network infrastructure
electrical equipment**

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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.

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
- maintaining one (1) of the following types of towers:
 - pyramid
 - delta pi
 - enterprise-specific type
- incorporating at least two (2) of the following:
 - insulators
 - clamps
 - bolts
 - structural components
- incorporating at least one (1) of the following maintenance tasks:
 - welding
 - cleaning
- inspecting at least four (4) of the following:
 - towers
 - overhead conductors/cables
 - structural fittings
 - electrical equipment
 - hardware
 - earthing systems
- incorporating at least two (2) of the following:
 - visual*
 - infra-red camera
 - X-ray

- camera
- binoculars/telescope
- (* must do)
- incorporating all the following:
 - reporting procedures
 - reporting outcomes
- dealing with unplanned events on at least one (1) occasion.

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:

- procedures for routine maintenance on transmission structures and hardware encompassing:
 - procedures for gaining access permits
 - reasons for gaining access
 - types of maintenance procedures on transmission structures - procedure to follow for inspection/patrols according to the transmission supply authority
 - erecting and removing of transmission equipment and hardware from a tower - climbing procedures, square rigging principles, calculation of forces at work within a given square rigging system and construction of a square rigging system
 - procedures for changing insulators - vertical angle suspension, strain insulator, post insulator (horizontal or vertical) and bridge insulator, and calculation of conductor forces
 - installation of temporary work platforms - types and function of installation tools and equipment, precautions and work methods to follow, and procedures for installations of temporary work platforms
 - installation of conductor protective hardware - types and selection of common dampers, tools and equipment; control of Aeolian vibration and procedures for the installation of dampers onto conductors
 - dead line insulator washing - supply authority regulations, and procedures for washing de-energised transmission lines
- inspection of towers and structures used for transmission lines encompassing:
 - standards, codes, legislation, supply authority regulations and/or enterprise requirements
 - characteristics of materials used for towers structures within the electrical transmission system - faults that occur that influence the integrity of the structure
 - deterioration prevention techniques - relationship between steel and other materials, inspection procedures for deterioration and deterioration prevention procedures in steel
 - procedures for the repair of deterioration in steel
- inspection of transmission lines encompassing:
 - standards, codes, legislation, supply authority regulations and/or enterprise requirements
 - clearances and safety procedures
 - ground line inspection procedures of electrical transmission lines - requirements for inspection of transmission lines and insulators, use of specific equipment and testing

devices during testing/inspection, techniques in transmission line inspection and methods of recording data

- overhead line inspection procedures of electrical transmission lines - methods and requirements for overhead line inspection on electrical structures, clearances for overhead conductors, cables and structures, techniques used to obtain close inspection of transmission lines, and use of specific equipment and testing devices during testing/inspection
- methods of recording data
- powerline safety practices encompassing:
 - protective apparatus and apparel for linework - responsibilities for the selection, use, maintenance and storage of protective apparatus and apparel and the types of protective apparatus and apparel used for the line worker
 - requirements for the use of ladders - carrying, erecting, collapsing and lowering different types of extension ladder against a standing pole; maintenance checks on different types of ladders; renewal of extension ropes and the safety issues relating to clearances from overhead conductors
 - requirements for climbing and working aloft - methods used to identify a pole is safe to climb; methods used to inspect a line worker's body belt; application of knots and hitches appropriate to the requirements of a line worker; height safety principles, including personal fall protection, prevention and related requirements; and the practical procedures of climbing an overhead structure and fitting a pole chair
 - traffic management - purpose of traffic management and a line worker's responsibilities in accordance with relevant statutory requirements and electricity supply industry (ESI) requirements, procedures used to provide an effective traffic management scheme and the use of a two-way radio
 - control of small fires - identification, selection and operation of the appropriate extinguishing mediums for various types of fires, general fire prevention methods and the precautions for personal protection when fighting small fires
 - rescue victims from heights and confined spaces - planning and identifying procedures; establishing responses; developing techniques; involvement of external emergency services; and practical demonstration/rehearsals of rescuing a person from heights and from confined spaces and emergency procedures for the rescue of an electric shock victim, including cardiopulmonary resuscitation (CPR)
 - requirements for aerial linework - planning, establishing and implementing relevant aviation authority clearances; determining system requirements; aircrew familiarisation with network operations and equipment; and requirements for effective communications operations for aerial work.

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, equipment and personal protective equipment (PPE) currently used in industry
- applicable documentation, including workplace procedures, 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>