



Australian Government

**Assessment Requirements for
UETDRDO002 Inspect, maintain and
restore energised low voltage overhead
distribution network infrastructure**

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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
 - inspecting three (3) of the following overhead structures and electrical apparatus:
 - poles and structures
 - overhead conductors/cables
 - underground/overhead transition points
 - electrical equipment
 - hardware
 - earthing systems
 - conducting inspections using at least one (1) of the following:
 - ground
 - vehicle
 - helicopter
 - fixed wing
 - using at least two (2) of the following inspection techniques:
 - visual*
 - infra-red camera
 - X-ray
 - camera
 - (*must do)
 - maintaining at least two (2) of the following overhead energised low voltage (LV) conductors and cables:
 - copper
 - aluminium
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- aluminium steel
 - steel
 - pilot
 - using at least two (2) of the following access equipment:
 - elevated work platform (EWP)
 - ladder
 - portable platform
 - using all of the following live LV working equipment:
 - insulating mats/sleeves
 - temporary bridging device
 - insulating gloves
 - insulated cable tensioning devices
 - ladder/pole shrouds
 - equipotential bonding
 - using at least three (3) of the following testing and recording devices:
 - voltage detector*
 - clamp-on ammeter
 - polarity tester
 - insulation resistance tester
 - phase sequence indicator
 - recording meters
 - (*must do)
 - performing LV switching to a given schedule and incorporating all of the following:
 - approvals/clearances
 - access authority/permits
 - incorporating two (2) of the following:
 - voltage detectors
 - polarities testers
 - phase rotation indicators
 - operating at least one (1) of the following switchgear types:
 - LV links
 - LV bridges
 - LV fuses
 - 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:

- powerline safety practices encompassing:
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- protective apparatus and apparel for linework:
 - responsibilities for the selection, use, maintenance and storage of protective apparatus and apparel
 - 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 ladders against a standing pole
 - maintenance checks on different types of ladders
 - renewal of extension ropes
 - 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
 - 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 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
 - precautions for personal protection when fighting small fires
 - rescue victims from heights and confined spaces:
 - planning, identifying and establishing procedures and responses
 - developing techniques
 - involvement of external emergency services
 - 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
 - requirements for effective communications operations for aerial work
 - LV - energised LV equipment working practices for substations encompassing:
 - standards, codes, Commonwealth, state/territory/local government legislation, supply authority regulations and/or enterprise requirements
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- safety precautions specific to working on or near energised LV conductors:
 - safe working practices and procedures
 - identification of hazards
 - assessment and control of WHS/OHS risks
 - types, selection, maintenance and use of personal protective equipment (PPE)
 - work on or near energised LV conductors:
 - types and function of specialised tools
 - safe working practices when using specialised tools
 - methods of using specialised tools
 - safe procedures for work on panels and in cubicles on or near energised LV conductors
 - release and rescue procedures for work on or near exposed energised LV conductors
 - poles and structures inspection principles encompassing:
 - standards, codes, legislation, supply authority regulations and or enterprise requirements
 - characteristics of wood used for structures within the electrical distribution system:
 - relationship between timber and water
 - faults that occur that influence the integrity of the structure
 - effects of fungal activity, termite and borer activity and dry rot
 - chemical treatment principles:
 - types of chemical used to treat timber
 - regulations and procedures in handling and transporting chemicals safely
 - application procedures of chemicals to wood
 - deterioration prevention techniques:
 - relationship between steel, concrete and wood
 - inspection procedures for deterioration
 - deterioration prevention procedures in steel, concrete and wood
 - procedures for the repair of deterioration in steel, concrete and wood
 - powerline inspection principles encompassing:
 - standards, codes, legislation, supply authority regulations and or enterprise requirements
 - ground line inspection procedures of electrical distribution structures:
 - requirements for pole inspection on electrical distribution structures
 - use of specific equipment and testing devices during testing/inspection
 - methods of recording data
 - overhead line inspection procedures of electrical distribution structures:
 - methods and requirements for overhead line inspection on electrical distribution structures
 - clearances for overhead conductors, cables and structures
 - use of specific equipment and testing devices during testing/inspection
 - methods of recording data
 - underground cable inspection procedures in the electrical distribution system:
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- state/territory industry policy and regulations
 - methods and requirements for line inspection on underground cable terminations
 - installation of switchgear and associated equipment encompassing:
 - types and function of various switchgear:
 - isolators, air-break switches, gas-filled switches, vacuum type, links, fuses, oil disconnectors, fuse switches and circuit breakers
 - operating characteristics, advantages and disadvantages of different types of switchgear
 - installation procedures, earthing requirements and techniques
 - types of equipment:
 - transformers, reactors, regulators, capacitors, relays, surge arrestors, fault indicators and mobile generators
 - installation procedures for switchgear and equipment:
 - standards, codes, legislation, supply authority regulations and/or enterprise requirements
 - assembly and erecting procedures
 - earthing requirements and techniques
 - pole mounted locations
 - maintenance procedures for switchgear and equipment:
 - diagnosing and rectifying faults according to electricity supply industry (ESI) standards and procedures
 - testing and commissioning:
 - ESI standards and procedures
 - LV switching principles encompassing:
 - standards, codes, legislation, supply authority regulations and/or enterprise requirements applicable to switching of LV to a given schedule
 - requirements for the use of manuals, system diagrams/plans and drawings:
 - types, characteristics and capabilities of electrical apparatus
 - use, characteristics and capabilities of specialised tools and testing equipment
 - LV network interconnectors source of possible backfeed
 - LV switching techniques:
 - identifying hazards, assessing and controlling risks associated with LV switching operations, electrical access permit(s), operational procedures, earthing procedures
 - PPE for LV switching.

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 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>
