



**Australian Government**

**Assessment Requirements for  
UETDRRT30 Perform to a given schedule  
rail traction switching operations**

**Release: 1**

# Assessment Requirements for UETDRRT30 Perform to a given schedule rail traction switching operations

## Modification History

Release 1. This is the first release of this unit of competency in the UET Transmission, Distribution and Rail Sector Training Package.

## 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
- checking all of the following:
  - approvals/clearances
  - electrical/access permits
- using at least one (1) of the following types of testing equipment for performing overhead traction switching:
  - voltage detectors
  - field intensity meter
  - polarity testers
  - phase rotation indicators
- performing rail traction switching operations to given schedule which includes switching at least one (1) of the following types of switches for overhead traction switching:
  - high voltage (HV)/low voltage (LV) circuit breakers
  - HV/LV switches
  - HV/LV isolators
  - HV/LV links
  - HV/LV bridges
  - HV/LV fuses
- using all of the following:
  - portable earthing/rail-connecting equipment
  - operating rods/sticks
- 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:

- installation of overhead distribution conductors, including:
  - standards, codes, legislation, supply authority regulations and/or enterprise requirements applicable to installing conductors and associated equipment
  - requirements for the use of overhead line construction manuals, system diagrams/plans and drawings - material lists, conductor size, type and route length
  - constructions types and structures for distribution and sub-transmission lines
  - types, sizes and characterises of overhead conductors
  - resources for the stringing and maintenance of conductors - types of LV and HV overhead electrical conductor connections; causes and effects of poor electrical connections; reasons for and methods used to maintain standard phase sequencing; removing, repairing and replacing damaged conductors; and minimum clearances between overhead conductors and LV and HV structures
  - techniques for conductor installation - types and application of tools, equipment and hardware
  - methods of stringing, tensioning and termination of LV and HV conductors
- safe working practices and procedures for the installation of overhead distribution conductors, including:
  - limits of approach for personnel, vehicles, mobile plant and elevated work platforms (EWP)
  - requirements of persons prior to making bare hand contact with dead LV mains and apparatus
  - requirements of relevant electrical access permits necessary to allow work to be performed on LV and HV apparatus
  - safe working practices - requirements to enable safe working on conductive poles, procedure to attach an on-site earthing device to de-energised LV and HV overhead circuit
- installation of switchgear and associated equipment, including:
  - types and function of various switchgear - isolators, air-break switches, gas-filled switches, vacuum type, links, fuses, oil disconnectors, fuse switches, circuit breakers, operating characteristics, advantages and disadvantages of different types 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, and 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, including:
  - 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; and LV network interconnectors source of possible back-feed
  - LV switching techniques - identifying hazards, assessing and controlling risks associated with LV switching operations, electrical access permit(s), operational procedures and earthing procedures
  - personnel protective equipment (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, facilities, equipment and personal protective equipment (PPE) currently used in industry for performing to a given schedule rail traction switching operations
- applicable documentation, including workplace procedures, relevant industry standards, equipment specifications, regulations, codes of practice and operation manuals.

## 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>