



**Australian Government**

# **Assessment Requirements for UETDRRT99 Test and verify rail traction 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.

## 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 rail traction installations for suitability using at least two (2) of the following types of inspection techniques:
  - visual\*
  - infra-red camera
  - X-ray
  - camera
  - binoculars/telescope
  - (\* must do)
- installing at least one (1) of the following alternating current (a.c.) earthing and multiple earth neutral (MEN) or direct current (d.c.) rail connection system components including:
  - pyramid
  - delta pi
  - enterprise specific type
- using at least three (3) of the following:
  - insulators
  - clamps
  - bolts
  - conductor spacers
  - vibration dampers
  - structural components
- solving rail traction installation problems, including at least one (1) of the following types of rail traction conductors:
  - copper
  - aluminium

- steel
- aluminium/steel reinforced
- working safely in confined spaces and aloft using at least one (1) of the following types of mobile plant and height equipment:
  - elevated work platform (EWP)
  - portable platform
  - gondola
  - hook ladder\*
  - elevated work box
  - (\*must do)
- obtaining relevant testing and measurement equipment, tools and personal protective equipment (PPE) required for testing and verifying rail traction installations including:
  - using the following types of testing and earth/bond equipment:
    - voltage/ de-energised indicating device
    - earthing conductors
- completing all 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 rail traction installations are safe
  - results of tests that show a rail traction 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 rail traction installations electrical equipment are safe to use
- testing installations, including:
  - rail traction system phasing, phase rotation and polarity is correct and conform to network construction standards
  - electrical rail traction network voltage levels comply with network supply standards
  - potential present upon rail traction network neutral conductors conform network supply standards
  - insulation resistance is adequate
  - earthing system and MEN system components are verified as correctly installed

- documentation, including:
  - results of tests conducted on a rail traction installation in accordance with work requirements to ensure the rail traction installation is safe
  - documents of periodic inspection and testing of rail traction installation and equipment in accordance with requirements
  - 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 PPE currently used in industry for testing and verifying rail traction installations
- 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>