



Australian Government

**Assessment Requirements for
UETTD RIS41 Install network
infrastructure electrical equipment**

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
- installing any three (3) of the following:
 - fuse switches
 - dropout fuses
 - sectionalisers
 - disconnectors
 - links
 - fuses
 - surge arrestors
- installing network infrastructure electrical equipment for at least one (1) of the following switchgear types:
 - reclosers
 - motorised switches
 - gas filled switches
 - ring main units
 - line fault indicators
 - oil filled switches
 - air break switches
- installing network infrastructure electrical equipment for at least one (1) of the following equipment types:
 - transformers
 - reactors
 - regulators
 - capacitors
- using specialist testing equipment including at least three (3) of the following:

- voltage detectors
- phasing equipment
- clip-on ammeters
- insulation resistance testers
- recording meters
- earth resistance tester
- 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:

- relationship between the substations within an overall power system, such as:
 - purpose, location in relation to load centres, layout of high voltage (HV) equipment within the substation and auxiliary equipment
- characteristics of a power transformer, such as:
 - basic construction of distribution transformers, operation under load/no-load conditions, types and basic operation of tap changing switches, including solid state types, efficiency and cooling
- auxiliary equipment used on transformers encompassing:
 - function and basic operation
- maintenance of a power transformer, such as
 - basic connections, restrictions to parallel operation, problems and remedies associated with harmonics, testing and fault-finding procedures
- characteristics of a reactor, including:
 - description and purpose
- types and function of various switchgear, such as:
 - 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, and requirements and techniques
- types of equipment, such as:
 - transformers, reactors, regulators, capacitors, relays, surge arrestors, fault indicators and mobile generators
- installation procedures for switchgear and equipment, including:
 - standards, codes, legislation, supply authority regulations and/or enterprise requirements
 - assembly and erecting procedures
 - earthing requirements and techniques
 - pole mounted locations
- testing and commissioning, including:
 - electricity supply industry (ESI) standards and 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.

Evidence should show demonstrated competency working at heights, in limited spaces, with different structural/construction types and method and in a variety of environments.

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 maintaining network infrastructure electrical equipment
- 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>