



Australian Government

**Assessment Requirements for
UETTDRDS56 Design power system
transmission, sub-transmission & zone
substation civil & structural components**

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
- completing two (2) compliant technical designs, including each of the following:
 - earthworks
 - foundation design, including relationship to geotechnical analysis
 - footing layout, including assignment of reference levels and benchmark
 - conduits, pits and drainage
 - hydraulics, including fire and safety facilities
 - access roads
 - fences and gates, including implementation of earth potential rise (EPR) control measures
 - transformer fire and sound attenuation measures, bunding and oil containment
 - indoor and outdoor structural steelwork
- completing designs, including all the following:
 - activities that address the correction of errors in the process
 - application of a design control checklist which lists all of the required design activities to be carried out in this process
- 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:

- principles of transmission, sub-transmission and zone substation civil and structural designs encompassing:
 - Commonwealth/state/territory and local government legislation, standards, codes, supply

authority regulations and/or enterprise requirements applicable to the substation design management principles

- requirements for the use of the substation system construction manuals, system diagrams/plans and drawings and for plans such as work method statements for the control of WHS/OHS risks
- types of activities to be carried out - earthworks, foundation design, including relationship to geotechnical analysis; footing layout; including assignment of reference levels and benchmark; conduits, pits and drainage; hydraulics; including fire and safety facilities; access roads, fences and gates, including implementation of EPR control measures, transformer fire and sound attenuation measures, bunding and oil containment, indoor and outdoor structural steelwork
- types of civil and structural parameters - access road suitable for low loaders and cranes (width, space turning radius and gradient); outdoor steelwork (stands), including strain/landing tower, surge arrester, isolator, voltage transformer, current transformer, circuit breaker, fault thrower, lightning masts, cages/screens, sealing ends, cable supports, operating stands and busbar supports
- indoor steelwork, including frequency injection, cable supports, cages/screens and cable ladder supports.

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 to undertake design of transmission, sub-transmission and zone substation civil and structural components
- 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>

