



Australian Government

Assessment Requirements for UETDRDS023 Draft and layout distribution substation minor upgrade

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 Release 4.0.

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 (2) separate occasions and include:

- drafting and laying out of distribution substation minor upgrade, including:
 - specifications
 - requirements for site inspection
 - systems modelling to evaluate and determine best outcomes
 - sustainable energy principles and practices
 - compliance against legislation, regulations, standards and codes of practice, project and workplace requirements
 - identifying, minimising or eliminating health and safety risks by using safety and control measures
 - obtaining, inspecting and using relevant personal protective equipment (PPE) for site inspection
 - prioritising and sequencing work for completion in accordance with workplace requirements
- drafting at least one (1) of the following:
 - a multi-phase pole mounted distribution transformer upgrade layout
 - a single-phase pole mounted transformer upgrade
- drafting the layout of at least one (1) of the following:
 - a multi-phase underground distribution substation upgrade
 - a multi-phase distribution substation or associated equipment upgrade
- completing all of the following for each of the completed drafts
 - single line diagram
 - above ground layout diagram
 - below ground layout diagram
 - earthing layout diagram
 - primary plant dimensioning checklist
 - standards compliance checklist
- performing at least one (1) site inspection

- performing ongoing quality checks of work in accordance with workplace requirements
- checking final design against project and workplace requirements
- completing relevant work records, reports and documentation.

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:

- distribution substation minor upgrade, draft and layout, including:
 - project requirements
 - design specifications
 - hazard, risk assessment and risk control requirements, including potential hazards
 - types and application of PPE
 - site inspections
 - use of systems modelling for best outcomes
 - application of sustainable energy principles and practices
 - compliance with legislation, regulations, standards, codes of practice, and project and workplace requirements
 - work records, reports and documentation
- distribution substations, including:
 - pole mounted transformers
 - pad mounted transformers
 - overhead conductors, route length and connections
 - underground cables, joints and terminations
 - high voltage (HV)/low voltage (LV) switchgear
- substation construction types, structures and clearances
- manuals, diagrams and drawings, including:
 - distribution extensions
 - distribution substations
 - street lighting systems
 - switching symbols and operations
 - mechanical drawings
- principles of surveying, including:
 - buried services detection
 - techniques for measuring heights and distances
 - pegging
- principles of cabling and trenching
- principles of computer-aided drafting.

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:

- relevant and appropriate PPE currently used in industry to undertake drafting and laying out a distribution substation upgrade
- applicable documentation, including workplace requirements, relevant industry standards, 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>