



Australian Government

Assessment Requirements for UETDRSB015 Maintain static var compensators (SVC)

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 the requirements of the elements and performance criteria on at least two (2) separate occasions and include:

- applying relevant legislation, regulations, standards, codes of practice and organisational workplace requirements including:
 - work health and safety (WHS)/occupational health and safety (OHS) requirements
- identifying hazards, assessing risks, and identifying, applying and monitoring control measures
- obtaining, inspecting and using relevant personal protective equipment (PPE)
- dealing with an unplanned event on at least one (1) occasion
- obtaining and signing on and off relevant work permits in accordance with workplace requirements
- completing relevant work records, reports and documentation
- maintaining at least two (2) of the following types of equipment:
 - static var compensator (SVC) power transformer
 - SVC auxiliary transformer
 - instrument transformer
 - capacitors
 - reactors
 - surge arresters
 - surge capacitors
 - low voltage system stabilisers
 - protection systems
- maintaining all of the following SVC components:
 - control system
 - thyristor valves, which may include gate electronics and ground level power supplies
 - cooling equipment, which may include pumping equipment and deionisers.

Knowledge Evidence

Evidence required to demonstrate competence in this unit must be relevant to and satisfy all the requirements of the elements and performance criteria and include knowledge of:

- relevant legislation, regulations, standards, codes of practice and organisational workplace requirements, including WHS/OHS requirements
- hazard, risk assessment and risk control requirements, including potential hazards
- types and application of PPE
- safe use of plant, tools and equipment
- application, purpose and types of permits and access authorities
- events constituting an unplanned event or incident
- procedures for responding to an unplanned event or incident
- workplace records, reports and documentation
- evaluation of equipment serviceability
- identification and procurement of materials and apparatus
- transformer types, characteristics and purpose
- principles of direct current (d.c.) auxiliary systems
- SVC human machine interface (HMI)
- main SVC reactive components, including:
 - thyristor controlled reactors (TCR)
 - thyristor switched reactors (TSR)
 - thyristor switched capacitors (TSC)
 - harmonic filters (HF)
- control systems, modes of operation, and characteristics, including:
 - voltage control
 - reactive power control
 - power factor control
 - susceptance control
 - transient response
 - power oscillation damping
- thyristor valves, including:
 - redundant thyristor levels
 - electrically triggered
 - optically triggered
 - gate electronics
 - ground level power supplies
- cooling equipment, including:
 - rating
 - instrumentation
 - pumps
 - deionisers

- heat exchangers
- protection systems, including:
 - reactor thermal overload
 - capacitor peak repetitive overvoltage and unbalance
 - neutral voltage displacement
 - transformer differential
 - point on wave switching
- reactive power flow
- surge arresters and capacitors
- low voltage system stabilisers
- use of appropriate tools and equipment.

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 materials, tools, equipment and PPE currently used in industry
- applicable documentation, including workplace requirements, 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>