



Australian Government

Assessment Requirements for UETTDRSB30 Maintain high voltage power system static VAR compensators (SVC)

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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
- maintaining at least two (2) of the following types of equipment:
 - static VAR compensator (SVC) power transformer
 - SVC auxiliary transformer
 - capacitors
 - reactors
 - cooling equipment
- 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:

- enterprise-specific policies and procedure instructions, including:
 - responsibilities and duty of care of employer and employee relationship
 - methods of obtaining the up-to-date information on enterprise policies and procedures
 - rules and regulations
 - induction into workplace - location of work area and storage area, timetable, uniform, personal wellbeing, housekeeping rules, emergency procedures and evacuation procedures
 - techniques when dealing with others - working in teams, customer relation, and complaint and issues procedures
 - overview of enterprise professional development - fire-fighting procedures, fatigue management, and training and competency development - understanding and promotion
- enterprise-specific WHS/OHS instructions, including:

- standards, codes, legislation, supply authority regulations and specific enterprise regulations pertaining to WHS/OHS policies and procedures
- methods of obtaining the up-to-date information on enterprise WHS/OHS policies and procedures
- specific enterprise personal protection equipment (PPE) - type and application; where and when to be used; method of replacement; responsibility of maintenance, including cleaning, inspection and testing; and emergency response, rescue, evacuation and first aid procedures
- personal wellbeing – hygiene, fatigue/stress management and drugs/alcohol
- WHS/OHS training - induction training, specific hazard training, specific task or equipment training, emergency and evacuation training, and training as part of broader programs, such as equipment operation
- WHS/OHS records - audits; inspection reports; workplace health and environmental monitoring records; training and instruction records; manufacturer and supplier information, such as material safety data sheets (MSDS); registers; maintenance reports; workers compensation and rehabilitation records; and first aid/medical records
- enterprise-specific technical drawing and documents, including:
 - types and application of enterprise-specific drawings and documents - electrical and electronic drawings, mechanical drawings, project charts, schedules, graphs, technical manuals and catalogues
 - instructions/worksheets - types and application of enterprise-specific symbols and diagrams
 - title box - description of parts and version control
- enterprise-specific switching diagrams and drawing, including:
 - types and application of enterprise-specific switching drawings and documents - wiring and schematic diagrams and switching symbols, mechanical drawings dealing with switching operations, project charts, switching schedules, graphs, technical manuals and catalogues, and instructions/worksheets
 - interpretation of different system switching diagrams - low voltage (LV) system switching diagrams, direct current (d.c.) traction supply sectioning diagrams, high voltage (HV) transmission and distribution system symbols and feeder plans, and processes of updating switching diagrams
- enterprise-specific specialised tools, including:
 - legislation, standards, codes, supply authority regulations and specific enterprise regulations pertaining to the use and care of specialised tools (voltage detectors, polarity testers and phase rotation)
 - characteristics, capabilities and application of specialised tools for a particular job
 - safety policies, procedures and precautions with regards to using, transporting and storing specialised tools
 - selection methods for obtaining the correct specialised tool for the particular job, including during procurement, purchasing and or hiring arrangements
 - techniques in pre-use inspection on the serviceability of specialised tools
 - techniques in the selection, use, maintenance, and care and storage of specialised tools
 - identifying WHS/OHS hazards, and assessing and controlling risks associated with their

use

- techniques for the safe use of specialised power tools
- enterprise-specific equipment installation procedures, including:
 - standards, codes, legislation, supply authority regulations and/or enterprise requirements applicable to equipment installation
 - requirements for the use of manuals, substation diagrams/plans and drawings
 - types, characteristics and capabilities of HV substation equipment to be installed
 - identification of components within the equipment to be installed and associated control housings
 - use, characteristics and capabilities of specialised tools and equipment
 - enterprise-specific policies and procedures for equipment to be installed
 - control equipment and auxiliary relays, flags and alarms
 - techniques in evaluating serviceability of equipment to be installed
 - safety precautions when testing and measuring equipment to be installed - safe working practices and procedures; identification of hazards; assessment and control of WHS/OHS risks; types, selection, maintenance and use of PPE; responsibilities and protocols; and safe working clearances
- remote and local operating principles and conventions
- enterprise-specific data management processes, including:
 - standards, codes, legislation, supply authority regulations and/or enterprise requirements applicable to data management
 - requirements for the use of manuals, substation diagrams/plans and drawings
 - types of enterprise-specific computer software
 - techniques in storing and retrieving data and reports from the computer
 - techniques in using the data management systems in following necessary commands and protocols in accordance with enterprise-specific procedures
 - calculation of results and data measurements using the computer
 - techniques in the preparation of preliminary works creation and closure
- principles of power system SVC, including:
 - applications of static reactive plant in HV networks, including voltage control, VAR control and transient response capacity
 - types of static reactive plant, including HV capacitors, HV reactors, SVC and combinations of these
 - operating characteristics and operational constraints, including point on wave switching issues
 - ratings, cooling systems and control systems and ancillary equipment used
 - configurations and system layout, including single star, double star and bridge type
 - typical protection systems used, including neutral unbalance current and neutral unbalance voltage
 - techniques used when balancing elements within static reactive plant
 - safety precautions when testing and maintaining HV static reactive plant - safe working practices and procedures; identification of hazards; assessment and control of WHS/OHS

risks; types, selection, maintenance and use of PPE.

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, equipment and PPE currently used in industry
- applicable documentation, including workplace procedures, 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>