



Australian Government

Assessment Requirements for UETDRTS004 Commission interdependent network protection and control systems

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 2.0.

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 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
- demonstrating commissioning of a protection and control system involving at least five (5) of the following:
 - circuit breaker fail protection
 - master controlled earth fault
 - inter-tripping
 - blocking
 - synchronising
 - pilot wire
 - phase comparison
 - load shedding
 - voltage control protection
 - frame leakage
 - delta current
 - reverse power
- 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:

- commissioning procedures associated with discrete protection and control systems encompassing:
 - standards, codes, Commonwealth/state/territory legislation, supply authority regulations and/or enterprise requirements associated with the commissioning procedures

- requirements for the use of commissioning manuals, system diagrams/plans and drawings
- techniques in commissioning procedures – planning, policy, testing techniques and close out requirements
- principles of power transformer construction and operations encompassing:
 - applications of static reactive plant in high voltage (HV) networks, including voltage control, voltage-ampere reactive (VAR) control and transient response capacity
 - types of static reactive plant, including HV capacitors, HV reactors, static VAR compensators 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 personal protective equipment (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, facilities, equipment and PPE currently used in industry
- applicable documentation including workplace procedures, relevant industry standards, equipment specifications, regulations, codes of practice and operation manuals
- working at realistic heights above ground, i.e., above three metres, in limited spaces, with different structural/construction types and method and in a variety of environments.

Links

Companion Volume Implementation Guides are found in VETNet -

<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=229bace1-b7bc-4653-9300-dffb13ecfad7>