



Australian Government

UETTDRSB32 Maintain power transformer on load tap changers (OLTC)

Release: 1

UETTDRSB32 Maintain power transformer on load tap changers (OLTC)

Modification History

Release 1. This is the first release of this unit of competency in the UET Transmission, Distribution and Rail Sector Training Package.

Application

This unit involves the skills and knowledge required to maintain power transformer on load tap changers (OLTC) in the electricity supply industry (ESI).

It includes maintaining, repairing and overhauling substation voltage regulating equipment restricted to resistor and reactor type high speed on load tap changers but does not include the main tank tap selector mechanism. It also includes inspecting, recording of information, testing and measuring of associated control circuits, range of acceptance tests required on installed complete units within the parent power transformer, diagnostic and pre-commissioning checks and tests involving tap changers and interpreting these results against agreed specifications.

The application of the skills and knowledge described in this unit may require a licence/registration to practice in the workplace.

Other conditions may apply under State and Territory legislative and regulatory licensing requirement which must be confirmed prior to commencing this unit.

Pre-requisite Unit

All competencies in the Common Unit Group must have been completed, plus all competencies in one (1) of the identified Pathway Unit Group(s).

Common Unit Group

UEENEEE101A Apply Occupational Health and Safety regulations, codes and practices in the workplace

UEENEEE102A Fabricate, assemble and dismantle utilities industry components

UEENEEE104A Solve problems in d.c. circuits

UEENEEE105A Fix and secure electrotechnology equipment

UEENEEE107A Use drawings, diagrams, schedules, standards, codes and specifications

UEENEEE137A Document and apply measures to control OHS risks associated with electrotechnology work

UEENEEG006A Solve problems in single and three phase low voltage machines

UEENEEG033A Solve problems in single and three phase low voltage electrical apparatus and circuits

UEENEEG063A Arrange circuits, control and protection for general electrical installations

UEENEEG101A Solve problems in electromagnetic devices and related circuits

UEENEEG102A Solve problems in low voltage a.c. circuits

UEENEEG106A Terminate cables, cords and accessories for low voltage circuits

UEENEEG108A Trouble-shoot and repair faults in low voltage electrical apparatus and circuits

UEENEEG109A Develop and connect electrical control circuits

UEENEEK142A Apply environmentally and sustainable procedures in the energy sector

UETTDRSB25 Maintain high voltage power and instrument transformers

Pathway 1 - Electrician

UEENEEG103A Install low voltage wiring and accessories

UEENEEG104A Install appliances, switchgear and associated accessories for low voltage electrical installations

UEENEEG105A Verify compliance and functionality of low voltage general electrical installations

UEENEEG107A Select wiring systems and cables for low voltage general electrical installations

Pathway 2 - Electrical Fitter

UEENEEG199A Conduct compliance and functional verification of electrical apparatus and existing circuits

Competency Field

Substation

Unit Sector

Not applicable.

Elements and Performance Criteria

ELEMENTS

Elements describe the essential outcomes.

1 Prepare to maintain voltage regulating equipment (tap changers)

PERFORMANCE CRITERIA

Performance criteria describe the performance needed to demonstrate achievement of the element.

- 1.1** Work schedules, construction plans, drawings, workplace procedures and material lists are obtained and analysed
- 1.2** Job requirements and workplace procedures are

identified and communicated with relevant personnel

- 1.3 Hazards are identified, work health and safety (WHS)/occupational health and safety (OHS) risks assessed and control measures prioritised, implemented and monitored in accordance with workplace procedures
- 1.4 Work is prioritised and sequenced for completion within acceptable timeframes following consultation with relevant personnel and in accordance with workplace procedures
- 1.5 Risk control measures are identified, prioritised, implemented and evaluated against the work schedule
- 1.6 Equipment, tools and personal protective equipment (PPE) required for work are identified, obtained and confirmed in working order
- 1.7 Liaison and communication issues with authorised personnel, authorities, clients and land owners are resolved to facilitate work, as required
- 1.8 Personnel participating in work are fully briefed and responsibilities confirmed in accordance with workplace procedures
- 1.9 Worksite is prepared to minimise risk, damage to property, commerce and individuals in accordance with workplace procedures
- 2 **Carry out the maintenance of voltage regulating equipment (tap changers)**
 - 2.1 WHS/OHS, sustainable energy and environmental principles and practices are monitored and actioned to reduce incidents of accidents in accordance with workplace procedures
 - 2.2 Cardiopulmonary resuscitation (CPR), rescue from live electrical apparatus and other related safety procedures are in place in accordance with job requirements and/or workplace procedures
 - 2.3 Safe working documentation is acquired and requirements completed in accordance with workplace procedures
 - 2.4 Requirements for lifting, climbing, working at heights, confined spaces and use of power tools/equipment are followed in accordance with workplace procedures

- 2.5 Hazard warnings and safety signs are recognised and hazards and assessed WHS/OHS risks are reported to immediate authorised personnel for directions in accordance with workplace procedures
- 2.6 Oil circuits are isolated and tap changer vessels drained in accordance with workplace and environmental protection procedures
- 2.7 Tap changer is withdrawn and maintained in accordance with manufacturer instructions and workplace procedures
- 2.8 Pre-service tests and measurements are conducted in accordance with workplace procedures
- 2.9 Voltage regulating equipment (tap changers) are safely maintained to ensure completion in agreed timeframes, to quality standards and with minimum waste
- 2.10 Unplanned events or conditions are responded to in accordance with workplace procedures
- 3 **Complete the maintenance of voltage regulating equipment (tap changers)**
 - 3.1 Completed work is checked against works schedule, construction plans and drawings for compliance and anomalies are reported in accordance with workplace procedures
 - 3.2 Safe working documentation is surrendered and transformer made ready for service
 - 3.3 Worksite is rehabilitated, cleaned up and confirmed safe in accordance with workplace procedures
 - 3.4 Tools, equipment, surplus resources and materials are cleaned, checked and returned to storage in accordance with workplace procedures
 - 3.5 Work records, reports and/or documentation are completed in accordance with workplace procedures and relevant personnel notified

Foundation Skills

Foundation skills essential to performance are explicit in the performance criteria of this unit of competency.

Range of Conditions

Range is restricted to essential operating conditions and any other variables essential to the work environment.

Non-essential conditions may be found in the Companion Volume Implementation Guide.

Unit Mapping Information

This unit replaces and is equivalent to UETTDRSB32A Maintain power transformer on load tap changers (OLTC).

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>