



Australian Government

Assessment Requirements for UETDRIS025

Diagnose and resolve faults in distribution systems

Release: 1

Assessment Requirements for UETDRIS025 Diagnose and resolve faults in distribution systems

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:

- 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, 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 work permits in accordance with workplace requirements
- completing relevant work records, reports and documentation
- diagnosing and resolving faults in distribution systems, including:
 - applying logical diagnostic methods
 - using fault scenarios to test the cause of system faults
 - identifying faults and competency needed to resolve them
 - resolving faults in system controls
 - verifying that the system operates within parameters
 - documenting fault rectification.

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:

- 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
- events constituting an unplanned event or incident

- procedures for responding to an unplanned event or incident
- workplace records, reports and documentation
- control of high voltage (HV) and low voltage (LV), including:
 - voltage control devices
 - conditions leading to voltage collapse and system black
 - voltage regulators applied to generators and synchronous phase modifiers
 - electromagnetic voltage regulators
 - series and parallel capacitors
 - on-load tap changer (OLTC) transformers
 - static VAR compensations (SVCs)
- range of devices covered by SVCs, including:
 - saturated reactor (SR) compensator
 - thyristor controlled reactor (TCR) compensator
 - combined TCR/TSC (thyristor switched capacitor)
 - production of waveform distorting harmonics and control devices
- importance of the location in the system of voltage control devices
- types of communication systems including:
 - telephone, power line carrier, dedicated cable, micro-wave links and fibre optics
 - quantities and signals to be communicated
 - advantages and disadvantages of various systems
 - equipment requirements
- transient over-voltages in power systems, including:
 - switching and lightning over-voltages and their effect on different plant items
 - transient over-voltage control and reduction using surge diverters, shield wires and circuit breaker control
 - insulation systems, insulation coordination, insulation grading in plant items, bushings and capacitor bushings
- operating parameters of circuit breakers and switches, including:
 - principles of operation
 - voltage and current range
 - breaking capacity
- types of isolators
- principles of circuit breaker auxiliary systems
- impact of natural disasters
- faults related to deteriorating 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>