



Australian Government

UETDRDS027 Investigate quality of supply issues

Release: 1

UETDRDS027 Investigate quality of supply issues

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.

Application

This unit includes the skills and knowledge required to investigate quality of supply issues in the electricity supply industry (ESI).

It includes common power quality issues, including electromagnetic interference, voltage irregularities, unbalanced loads, harmonics, and power factor.

It also includes testing and field equipment, including types, construction and function, calibration, care and maintenance, and measurement of power quality parameters.

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 requirements which must be confirmed prior to commencing this unit.

Pre-requisite Unit

UEECD0007 Apply work health and safety regulations, codes and practices in the workplace

UEECD0044 Solve problems in multiple path circuits

UEECD0046 Solve problems in single path circuits

UEECD0051 Use drawings, diagrams, schedules, standards, codes and specifications

UEEEL0020 Solve problems in low voltage a.c. circuits

UEEEL0021 Solve problems in magnetic and electromagnetic devices

UETDREL005 Work safely in the vicinity of live electrical apparatus

Competency Field

Design

Unit Sector

Not applicable.

Elements and Performance Criteria

ELEMENTS

Elements describe the essential outcomes.

PERFORMANCE CRITERIA

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

1 Prepare to investigate quality of supply issues

- 1.1 Legislation, regulations, standards, codes of practice and organisational workplace requirements for the work to be done are reviewed and determined
- 1.2 Purpose of the investigation is established and expected outcomes of the work are confirmed with appropriate personnel
- 1.3 Requirements for site inspections are determined in accordance with workplace requirements
- 1.4 Work plan is determined in accordance with workplace requirements, and where relevant, communicated to the appropriate personnel
- 1.5 Plant, tools, equipment and personal protective equipment (PPE) required for work are determined, obtained and confirmed in working order
- 1.6 Work is prioritised and sequenced for completion in accordance with work plan and workplace requirements
- 1.7 Hazards are identified, risks assessed, and control measures identified and applied
- 1.8 Work permits are identified in accordance with workplace requirements
- 1.9 Liaison and communication issues with authorised personnel, authorities and clients are resolved to perform work, as required
- 1.10 Worksite is prepared in accordance with the work plan and workplace requirements

2 Investigate quality of supply issues

- 2.1 Legislation, regulations, standards, codes of practice and organisational workplace requirements for the work to be performed are applied and monitored
- 2.2 Quality of supply issues are investigated in accordance with workplace requirements
- 2.3 Incidents or unplanned events are responded to in

- accordance with workplace requirements
- 2.4** Quality checks of work are undertaken in accordance with work plan and workplace requirements
- 3 Complete work and documentation**
- 3.1** Completed work is checked for compliance against the work plan and workplace requirements
- 3.2** Work records, reports and documentation are completed, and where relevant, appropriate personnel notified in accordance with workplace requirements

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 UET Transmission, Distribution and Rail Sector Training Package Companion Volume Implementation Guide.

Unit Mapping Information

This unit replaces and is not equivalent to UETDRDS012 Investigate quality of power systems supply issues.

Links

Companion Volume Implementation Guides are found in VETNet - <https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=229bace1-b7bc-4653-9300-dffb13ecfad7>

Assessment Requirements for UETDRDS027 Investigate quality of supply issues

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, and identifying, applying and monitoring control measures
- inspecting and using personal protective equipment (PPE) for site inspection
- dealing with an unplanned event on at least one (1) occasion
- performing at least one (1) site inspection
- obtaining work permits in accordance with workplace requirements
- completing relevant work records, reports and documentation
- investigating two (2) quality of supply issues for at least three (3) of the following events:
 - electromagnetic interference
 - voltage irregularities
 - unbalanced loads
 - harmonics
 - power factor.

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
- safe use of plant, tools and equipment
- inspection and use of PPE for site inspection
- 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
- power quality issues, including:
 - electromagnetic interference
 - voltage irregularities
 - unbalanced loads
 - harmonics
 - power factor
- testing and field equipment, including:
 - types, construction and function
 - calibration
 - care and maintenance
- measurement of power quality parameters
- typical solutions to quality of supply issues.

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, facilities, equipment and PPE currently used in industry to investigate quality of supply issues
- applicable documentation, including workplace requirements, relevant industry standards, 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>