



Australian Government

UETDRIS033 Solve problems in network protection

Release: 1

UETDRIS033 Solve problems in network protection

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 solve problems in network protection in the electricity supply industry (ESI).

It includes the fundamental knowledge of primary network components, and protection schemes and related components.

It also includes the use of manufacturer's manuals and specifications, problem-solving techniques, and completing workplace records.

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

Other conditions may also 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

UEECD0019 Fabricate, assemble and dismantle utilities industry components

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

UETDRIS032 Solve problems in network equipment

Competency Field

Industry Specific Cross Discipline

Unit Sector

Not applicable.

Elements and Performance Criteria

ELEMENTS

Elements describe the essential outcomes.

1 Prepare to solve problems in network protection

2 Solve problems in network protection

PERFORMANCE CRITERIA

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

- 1.1** Legislation, regulations, standards, codes of practice and organisational workplace requirements for the work to be done are reviewed and determined
- 1.2** Work plan is obtained, confirmed and communicated with relevant personnel in accordance with workplace requirements
- 1.3** Work is prioritised and sequenced for completion in accordance with work plan and workplace requirements
- 1.4** Hazards are identified, risks assessed, and control measures identified and applied
- 1.5** Work permits are determined in accordance with workplace requirements
- 1.6** Plant, tools, equipment and personal protective equipment (PPE) required for work are determined, obtained and confirmed in working order
- 2.1** Legislation, regulations, standards, codes of practice and organisational workplace requirements for the work to be performed are applied and monitored
- 2.2** Lifting, working at heights, working in confined spaces and the use of plant, tools, equipment and PPE are carried out in accordance with workplace requirements
- 2.3** Work permits are received and signed in accordance with workplace requirements
- 2.4** Problems in network protection are solved in accordance with workplace requirements
- 2.5** Hazard control measures are monitored in accordance with workplace requirements

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| | 2.6 | Incidents or unplanned events are responded to in accordance with workplace requirements |
| | 2.7 | 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 | Incidents or unplanned events are reported in accordance with workplace requirements |
| | 3.3 | Plant, tools and equipment are cleaned, checked and returned to storage, and surplus resources and materials are managed in accordance with workplace requirements |
| | 3.4 | Work permits are signed off in accordance with workplace requirements |
| | 3.5 | Work records, reports and documentation are completed, and 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 UETTDRI68 Solve problems in energy supply network protection equipment and systems.

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 UETDRIS033 Solve problems in network protection

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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
- 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
- solving problems in network equipment, including:
 - determining equipment operating parameters
 - determining scope of work and resource requirements
 - applying problem-solving techniques
 - applying manufacturer's settings to meet network requirements
 - conducting functional testing
- solving problems in network systems including at least one (1) of the following:
 - distribution overhead
 - distribution underground
 - transmission overhead
 - transmission underground
- solving problems in protection equipment and systems including at least two (2) of the following:
 - over-current protection
 - earth fault protection
 - differential protection
 - oil and gas devices
 - busbar protection

- surge protection
- conventional relays
- electronic relays
- reclosers/sectionalisers.

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
- use of manufacturer's instructions, diagrams and manuals
- fundamentals of primary components, including:
 - power transformers
 - generators
 - feeders
 - reclosers/sectionalisers
 - busbars
- fundamentals of protection schemes and components, including:
 - voltage transformers
 - current transformers
 - transducers
 - relays.

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
- applicable documentation, including workplace requirements, relevant industry standards, equipment specifications, regulations, codes of practice and operation manuals.

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