



Australian Government

UETDRDS018 Design distribution protection 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 Release 4.0.

Application

This unit includes the skills and knowledge required to design distribution protection systems in the electricity supply industry (ESI).

It includes calculations of fault levels, selection of appropriate protection devices and automation requirements, and protection coordination schemes.

It also includes recommendations to support the calculations, and compliance with workplace requirements.

The application of the skills and knowledge described in this unit may require a licence/registration to practice in the workplace subject to regulations for undertaking of electrical work.

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

PERFORMANCE CRITERIA

Elements describe the essential outcomes.

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

1 Prepare to design distribution protection systems

- 1.1** Project requirements are determined
- 1.2** Design specifications are determined in accordance with workplace requirements
- 1.3** Tools, equipment and personal protective equipment (PPE) required for site inspections are determined, obtained and confirmed in working order
- 1.4** Requirements for site inspections are determined in accordance with workplace requirements
- 1.5** Work is prioritised and sequenced for completion in accordance with workplace requirements

2 Design distribution protection systems

- 2.1** Site inspection is performed where required
- 2.2** Distribution protection systems are designed in accordance with workplace requirements
- 2.3** Systems modelling is used to evaluate and determine best outcomes in accordance with workplace requirements
- 2.4** Design is checked for compliance against legislation, regulations, standards and codes of practice
- 2.5** Health and safety risks are identified and minimised or eliminated by using safety and control measures in the design process
- 2.6** Quality checks of work are undertaken in accordance with workplace requirements

3 Complete work and documentation

- 3.1** Completed work is checked against project and workplace requirements
- 3.2** Work records, reports and documentation are completed, approved 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 UETDRDS006 Develop high voltage and low voltage distribution protection systems.

Links

Companion Volume Implementation Guides are found in VETNet -

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