



Australian Government

UET40522 Certificate IV in ESI - Substations

Release 1

UET40522 Certificate IV in ESI - Substations

Modification History

Release 1. This is the first release of this qualification in the UET Transmission, Distribution and Rail Sector Training Package Release 4.0.

Qualification Description

This qualification provides the skills and knowledge to work in power system substations in the electricity supply industry (ESI).

This qualification covers selecting, installing, setting up, testing, inspecting, fault finding, repairing and maintaining electrical systems within substations. It includes switching, maintaining circuit breakers and transformers, and diagnosing and rectifying faults. Options are available for skills to be obtained in high current direct current (d.c.) switchgear and equipment, installation of high voltage (HV) plant and equipment and/or the maintenance and commissioning of discrete protection and control systems.

The skills and knowledge described within the units in this qualification may require a licence or permit to practice in the workplace.

Additional and/or other conditions may also apply under state and territory legislative and regulatory licensing requirements which must be confirmed prior to commencing the qualification.

Entry Requirements

The entry requirement for this qualification is:

- a current Electrician licence or its equivalent issued in an Australian state or territory

or

- Certificate III in Electrotechnology Electrician qualification or the equivalent issued in an Australian state or territory (see note below)

Note: UET40522 Certificate IV in ESI – Substations can be undertaken in conjunction with the entry requirement qualification listed above as long as the following conditions are met:

- must be permitted within jurisdictional training and regulatory requirements;
- at least one third of the total units of competency required for completion of the entry requirement qualification must be met prior to commencing the Certificate IV in ESI – Substations; and,
- the Certificate III entry requirement qualification must be successfully completed prior to issuing the Certificate IV in ESI – Substations.

Packaging Rules

A total of **18 units of competency** comprising:

12 core units listed below, plus:

6 electives units from Group A listed below, of which, **1 elective unit** may be selected, with appropriate contextualisation, from Group B listed below or from a qualification in this or any other endorsed Training Package, provided the selected unit contributes to the vocational outcome of the qualification.

Where imported units are selected, care must be taken to ensure all prerequisite units specified are complied with. Prerequisites attached to any of the units must be obtained and are additional to the number of units required for the qualification.

Where a prerequisite is attached to a unit it is identified by the symbol ⊐.

Core units

UEECD0007	Apply work health and safety regulations, codes and practices in the workplace
UEECD0019	Fabricate, assemble and dismantle utilities industry components ⊐ UEECD0007 Apply work health and safety regulations, codes and practices in the workplace
UEECD0044	Solve problems in multiple path circuits ⊐ UEECD0007 Apply work health and safety regulations, codes and practices in the workplace ⊐ UEECD0046 Solve problems in single path circuits
UEECD0046	Solve problems in single path circuits ⊐ UEECD0007 Apply work health and safety regulations, codes and practices in the workplace
UEECD0051	Use drawings, diagrams, schedules, standards, codes and specifications ⊐ UEECD0007 Apply work health and safety regulations, codes and practices in the workplace
UEEEL0020	Solve problems in low voltage a.c. circuits ⊐ UEECD0007 Apply work health and safety regulations, codes and practices in the workplace ⊐ UEEEL0021 Solve problems in magnetic and electromagnetic devices and ⊐ UEECD0043 Solve problems in direct current circuits or

- └ UEECD0044 Solve problems in multiple path circuits
- └ UEECD0046 Solve problems in single path circuits
- UEEEL0021 Solve problems in magnetic and electromagnetic devices
 - └ UEECD0007 Apply work health and safety regulations, codes and practices in the workplace
 - and
 - └ UEECD0043 Solve problems in direct current circuits
 - or
 - └ UEECD0044 Solve problems in multiple path circuits
 - └ UEECD0046 Solve problems in single path circuits
- UETDREL005 Work safely in the vicinity of live electrical apparatus
 - └ UEECD0007 Apply work health and safety regulations, codes and practices in the workplace
- UETDRIS028 Implement and monitor environmental policies and procedures
- UETDRIS029 Implement and monitor organisational WHS/OHS policies, procedures and programs
- UETDRSB006 Inspect substations
- UETDRSB007 Install and maintain substation direct current systems
 - └ 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

Group A: Elective units

- UETDRIS031 Maintain insulating oil
- UETDRIS032 Solve problems in network equipment
 - └ 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

UETDRIS033 Solve problems in network protection

└ 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

UETDRSB001 Perform substation switching operations to a given schedule

UETDRSB002 Commission and maintain discrete control and protection systems

UETDRSB003 Commission and maintain distribution field devices

└ 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
 - └ UETDRTS036 Develop secondary protection and control scheme isolation and restoration documents
- UETDRSB004 Conduct surveys using thermovision techniques
- UETDRSB005 Diagnose and resolve faults in a substation environment
- UETDRSB008 Install high current d.c. equipment and switchgear
- UETDRSB009 Install high voltage plant and equipment
- UETDRSB010 Maintain capacitor bank equipment
- UETDRSB011 Maintain high current d.c. equipment and switchgear
- UETDRSB012 Maintain high voltage circuit breakers
- UETDRSB013 Maintain on-load tap changers (OLTC)
- UETDRSB014 Maintain power and instrument transformers
- UETDRSB015 Maintain static var compensators (SVC)
- UETDRSB016 Maintain synchronous condensers
- UETDRTS036 Develop secondary protection and control scheme isolation and restoration documents
- └ 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

Group B: Imported elective units

BSBINS402	Coordinate workplace information systems
BSBLDR413	Lead effective workplace relationships
BSBLDR414	Lead team effectiveness
BSBOPS402	Coordinate business operational plans
BSBSTR402	Implement continuous improvement

Qualification Mapping Information

This qualification replaces and is equivalent to UET40521 Certificate IV in ESI - Power Systems Substations

Links

Companion Volume Implementation Guides are found in VETNet -

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