



Australian Government

UEEEL0028 Conduct compliance and functional verification of electrical apparatus and existing circuits

Release: 2

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Modification History

Release 2. Minor Change. Typographic error in prerequisites corrected.

Release 1. This is the first release of this unit of competency in the UEE Electrotechnology Training Package.

Application

This unit involves the skills and knowledge required to conduct compliance and functional verification of electrical apparatus and existing circuits.

It includes inspection and testing to verify electrical apparatus and/or existing circuits are safe and comply with all requirements. It covers working safely; visual inspections and mandatory, optional and functional testing following verification procedures; identifying non-compliance defects and mandatory reporting requirements.

The skills and knowledge described in this unit require a licence or permit to practice in the workplace where work is carried out on electrical installations which are designed to operate at voltages greater than 50 V alternating current (a.c.) or 120 V direct current (d.c.).

Competency development activities in this unit are subject to regulations directly related to licensing. Where a licence or permit to practice is not held, a relevant contract of training, such as an Australian Apprenticeship, may be required.

Additional and/or other conditions may apply in some jurisdictions subject to regulations related to electrical work. Practice in the workplace and during training is also subject to work health and safety (WHS)/occupational health and safety (OHS) regulations.

Current Licence Holders:

Those holding an 'Electrical Fitter Occupational Licence' or equivalent issued in an Australian state or territory and are currently employed as an Electrical Fitter meet the requirements of this unit and its prerequisite requirements.

Pre-requisite Unit

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

UEECD0019 Fabricate, assemble and dismantle utilities industry components

UEECD0020 Fix and secure electrotechnology equipment

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

UEECD0016 Document and apply measures to control WHS risks associated with electrotechnology work

- UEEEL0003 Arrange circuits, control and protection for general electrical installations
 - UEEEL0020 Solve problems in low voltage a.c. circuits
 - UEEEL0023 Terminate cables, cords and accessories for low voltage circuits
 - UEEEL0005 Develop and connect electrical control circuits
 - UEEEL0047 Identify, shut down and restart systems with alternate supplies
 - UEEEL0019 Solve problems in direct current (d.c.) machines
 - UEEEL0021 Solve problems in electromagnetic devices
 - UEEEL0014 Isolate, test and troubleshoot low voltage electrical circuits
 - UEEEL0024 Test and connect alternating current (a.c.) rotating machines
 - UEEEL0025 Test and connect transformers
- and
- UEECD0043 Solve problems in direct current circuits
- or
- UEECD0044 Solve problems in multipath circuits
 - UEECD0046 Solve problems in single path circuits

Competency Field

Electrical

Unit Sector

Electrotechnology

Elements and Performance Criteria

ELEMENTS

Elements describe the essential outcomes.

1 Prepare to inspect and test electrical apparatus and circuits

PERFORMANCE CRITERIA

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

- 1.1** WHS/OHS measures for the site are identified, obtained and applied
- 1.2** WHS/OHS risk control measures and procedures in preparation for the work are followed
- 1.3** WHS/OHS hazards not previously identified are noted

and risk control measures implemented

1.4 Electrical apparatus, existing circuits documentation and relevant industry standards are reviewed and applied

1.5 Appropriate person/s is consulted to ensure the work is coordinated effectively with others

1.6 Tools, equipment and testing devices needed to verify compliance are obtained in accordance with workplace procedures and checked for correct operation and safety

1.7 Preparatory work is checked to ensure no damage has occurred and complies with requirements

2 Inspect and conduct safety testing

2.1 WHS/OHS risk control measures and procedures for carrying out the work are followed

2.2 Need to inspect, test and measure live electrical work is determined in accordance with WHS/OHS requirements and workplace procedures

2.3 Circuits/machines/plant are checked as being isolated in accordance with WHS/OHS requirements and switch-off, lock out and tagging procedures

2.4 Electrical apparatus/circuits are inspected to determine if they are compliant with industry standards, function safely and as intended

2.5 Wiring is checked for suitability for the environments in which they are installed and suitably protected from damage or overheating

2.6 Protection methods and devices are validated as meeting coordination requirements for overload and short circuit protection

2.7 Switchgear and control gear are validated as being appropriately rated and meeting functional requirements

2.8 Evidence that electrical equipment complies with safety requirements is cited

2.9 Earthing system components are checked that they are correctly located and conductors correctly sized

2.10 Mandatory tests are conducted on all connected electrical apparatus and existing circuits in accordance with industry standards

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| | 2.11 | Testing is conducted to verify that fault-loop impedance is sufficiently low and residual current devices operates as intended |
| 3 Report inspection and test findings | 3.1 | WHS/OHS risk control work completion measures and procedures are followed |
| | 3.2 | Worksite is cleaned and made safe in accordance with workplace procedures |
| | 3.3 | Non-compliance defects are identified and reported in accordance with workplace procedures |
| | 3.4 | Recommendations for rectifying defects are made in accordance with workplace procedures |
| | 3.5 | Mandatory documentation is completed in accordance with workplace procedures |

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 UEE Electrotechnology Training Package Companion Volume Implementation Guide.

Verification and testing must include at least the following two different types of installations:

- electrical apparatus and existing circuits comprising an apparatus and existing circuit supplied by a single phase supply
- electrical apparatus and existing circuits supplied by a three phase supply

Unit Mapping Information

This unit replaces and is not equivalent to UEENEEG199A Conduct compliance and functional verification of electrical apparatus and existing circuits.

Links

Companion Volume implementation guides are found in VETNet - -

<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=b8a8f136-5421-4ce1-92e0-2b50341431b6>