



Australian Government

UEEEL0029 Conduct compliance inspection of LV electrical installations with demand exceeding 100 A per phase

Release: 2

UEEEL0029 Conduct compliance inspection of LV electrical installations with demand exceeding 100 A per phase

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 inspection of low voltage (LV) electrical installation with demand exceeding 100 ampere (A) per phase.

It includes preparing and conduction compliance inspection, and actioning and reporting on findings.

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 volt (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.

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.

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

UEEEL0039 Verify compliance and functionality of low voltage general electrical installations

UEEEL0023 Terminate cables, cords and accessories for low voltage circuits

UEEEL0018 Select wiring systems and cables for low voltage general electrical installations

UEEEL0005 Develop and connect electrical control circuits

UEEEL0030 Conduct compliance inspection of single phase LV electrical installations

UEEEL0019 Solve problems in direct current (d.c.) machines

UEEEL0021 Solve problems in electromagnetic devices

UEEEL0014 Isolate, test and troubleshoot low voltage electrical circuits

UEEEL0008 Evaluate and modify low voltage heating equipment and controls

UEEEL0009 Evaluate and modify low voltage lighting circuits, equipment, and controls

UEEEL0010 Evaluate and modify low voltage socket outlets circuits

UEEEL0024 Test and connect alternating current (a.c.) rotating machines

UEEEL0025 Test and connect transformers

UEEEL0012 Install low voltage wiring, appliances, switchgear and associated accessories and

UEECD0043 Solve problems in direct current circuits

or

UEECD0044 Solve problems in multiple path 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 conduct compliance inspection

PERFORMANCE CRITERIA

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

- 1.1** WHS/OHS procedures for a given work area 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 are implemented in consultation with appropriate person/s

1.4 Installation 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 to verify compliance are obtained and checked for operation and safety in accordance with workplace procedures

2 Conduct compliance inspection

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

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

2.3 Circuits/machines/plant are checked and isolated in accordance with WHS/OHS requirements and workplace procedures

2.4 Inspection of the mains and main switchboard is conducted of protection metering earthing circuit arrangements and markings in accordance with relevant industry standards

2.5 Inspection of circuits is conducted for compliance of the installed wiring accessories switchgear/control gear and current-using devices in accordance with relevant industry standards

2.6 Electrical equipment compliance with relevant safety requirements and industry standards is obtained from appropriate person/s

2.7 Inspection is conducted to verify compliance of earthing insulation polarity circuit connections and operation of residual current devices (RCDs) in accordance with relevant industry standards

2.8 Fault-loop impedance is determined as being sufficiently low by testing calculation and compliance with arrangement of the installation in accordance with relevant industry standards

2.9 Unplanned events are responded to in accordance with workplace procedures in a manner that minimises risk to

		personnel and equipment
3 Act and report on inspection findings	3.1	WHS/OHS work completion risk control measures and procedures are followed
	3.2	Non-compliance defects are identified and documented in accordance with relevant industry standards and workplace procedures
	3.3	Actions for non-compliance defects within the scope of inspection responsibilities are in accordance with workplace procedures and relevant industry standards
	3.4	Inspection report is completed and issued to appropriate person/s in accordance with workplace procedures and relevant industry standards

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.

Conducting compliance inspection must include at least two electrical installations comprising of the following:

- consumer mains
- distribution boards related to the control of an individual occupier's portion of a multiple installation
- earthing system
- final sub-circuits
- main earthing system
- main switchboard
- sub-mains

Unit Mapping Information

This unit replaces and is equivalent to UEENEEG123A Conduct compliance inspection of LV electrical installations with demand exceeding 100 A per phase.

Links

Companion Volume implementation guides are found in VETNet - -

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

Assessment Requirements for UEEEL0029 Conduct compliance inspection of LV electrical installations with demand exceeding 100 A per phase

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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, performance criteria and range of conditions on at least one occasion and include:

- obtaining appropriate documentation and equipment in preparation for the inspection
- conducting detailed inspections and testing methodically
- identifying non-compliance defects
- relating non-compliance defects with appropriate clause in regulatory standards
- acting within the inspection authority when dealing with non-compliance defects
- documenting and reporting inspection findings
- dealing with unplanned events
- applying scope of inspection responsibilities
- completing inspection
- applying relevant industry standards
- applying relevant work health and safety (WHS)/occupational health and safety (OHS) requirements, including using risk control measures
- following workplace procedures
- preparing and conducting compliance inspection, including:
 - inspecting mains, circuits and electrical equipment
- obtaining and using tools, equipment and testing devices
- performing calculations.

Knowledge Evidence

Evidence required to demonstrate competence in this unit must be relevant to and satisfy all of the requirements of the elements, performance criteria and range of conditions and include knowledge of:

- electrical installations, inspections and safety compliance audits and tests of installations with demand of over 100 amperes (A) per phase, including:

- electrical installations, inspections and safety compliance audits encompassing:
 - inspection types and their scope
 - inspection of general electrical installations, special electrical installations, hazardous areas installations, safety audits and investigations
 - inspection procedures
 - processes for confirming that performance standards have been met
 - actions and procedures for dealing with non-compliance defect
- problem-solving techniques
- processes for inspection of single supply arrangements, main switchboard and earthing
- relevant industry standards
- relevant job safety assessments or risk mitigation processes
- relevant manufacturer specifications
- relevant tools, equipment and testing devices
- relevant WHS/OHS legislated requirements
- relevant workplace documentation
- relevant workplace policies and procedures.

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 suitable workplace operational situations where it is appropriate to do so; where this is not appropriate, assessment must occur in simulated suitable workplace operational situations that replicate 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:

- a range of relevant exercises, case studies and/or simulations
- relevant and appropriate materials, tools, facilities, equipment and personal protective equipment (PPE) currently used in industry
- applicable documentation, including workplace procedures, equipment specifications, regulations, relevant industry standards, codes of practice and operation manuals.

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