



Australian Government

UEEEEC0077 Verify functionality and compliance of custom electronic installations

Release: 1

UEEEEC0077 Verify functionality and compliance of custom electronic installations

Modification History

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 verify functionality and compliance of custom electronic installations. It includes preparing to verify custom electronic installations, visually inspecting the installation, conducting tests, reporting inspection and verifying 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. Where a licence or permit to practice is not held, skills and knowledge described in this unit require a relevant contract of training, such as an Australian Apprenticeship.

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.

No other licensing, legislative or certification requirements apply to this unit at the time of publication.

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

UEECD0025 Lay wiring/cabling and terminate accessories for extra-low voltage (ELV) circuits

UEEEEC0004 Assemble and set up fixed video/audio components and systems in buildings and premises

Competency Field

Electronics and Communications

Unit Sector

Electrotechnology

Elements and Performance Criteria

ELEMENTS

Elements describe the essential outcomes.

1 Prepare to verify custom electronic installations

PERFORMANCE CRITERIA

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

- 1.1** WHS/OHS requirements and workplace procedures for relevant work area are identified, obtained and applied
- 1.2** Risk control measures are applied in accordance with workplace procedures prior to commencing work
- 1.3** Risks/hazards are identified, assessed and reported to relevant person/s, and control measures implemented
- 1.4** Relevant person/s is consulted to ensure the work is coordinated effectively with others on worksite
- 1.5** Location of system components is determined from specifications and diagrams
- 1.6** Inspection and tests are sequenced in accordance with job schedule
- 1.7** Materials required for tests and verification are obtained in accordance with workplace procedures and checked against job requirements
- 1.8** Tools, equipment and testing devices required to verify compliance are obtained in accordance with workplace procedures and checked for correct operation and safety

2 Visually inspect the installation

- 2.1** Workplace risk control measures and workplace procedures are applied
- 2.2** Circuits/machines/plant are isolated, as required, in accordance with WHS/OHS requirements and workplace procedures
- 2.3** Cabling is checked for appropriate type and size
- 2.4** Cabling accessories and components are checked as being suitably located, securely fixed and suitably protected from damage or corrosion

- 2.5 Accessories and components are checked as being appropriately rated and meeting functional requirements
- 2.6 Evidence that equipment complies with safety and functional requirements is confirmed in accordance with relevant industry standards
- 2.7 Unplanned situations are dealt with in accordance with workplace procedures, discussed with relevant person/s and documented
- 2.8 Unexpected situations are dealt with safely and with the approval of relevant person/s
- 2.9 Inspection is conducted efficiently minimising waste of materials, damage to apparatus, the surrounding environment or services applying sustainable energy practices

3 Conduct tests

- 3.1 Workplace risk control measures and workplace procedures are applied
- 3.2 Testing or measuring on a live and operating system is conducted in accordance with WHS/OHS requirements and workplace procedures
- 3.3 Circuits/machines/plant are isolated in strict accordance with WHS/OHS requirements and workplace procedures
- 3.4 Tests are conducted to verify that cabling is safe, meets specified standards and any relevant regulatory requirements
- 3.5 Custom electronic apparatus and devices are tested to ensure safe installation and intended functionality
- 3.6 Unexpected situations are dealt with in accordance with workplace procedures, discussed with relevant person/s and documented
- 3.7 Unexpected situations are dealt with safely and with the approval of relevant person/s
- 3.8 Testing is conducted efficiently, minimising waste of materials, damage to apparatus, the surrounding environment or services applying sustainable energy practices

4 Report inspection and

- 4.1 WHS/OHS work completion risk control measures and

verification findings

procedures are applied

- 4.2** Worksite and equipment are cleaned and made safe in accordance with workplace procedures
- 4.3** Non-compliance defects are identified and reported in accordance with workplace procedures
- 4.4** Recommendations for rectifying defects are made in accordance with workplace procedures
- 4.5** Work completion is documented and appropriate person/s notified 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.

Verifying compliance and functionality of custom electronic installations must include at least the following:

- two different new or existing custom electronic installations
- one installation, including a basic integrated system

Verification must include at least the following:

- visual inspection of cabling, accessories, apparatus and controls
- conducting all safety and compliance tests

Testing must include at least the following:

- isolation testing
- insulation resistance
- cable tests to specified standard (e.g. Category 5 standard)
- polarity tests
- continuity of earthing
- correct connections performance tests

Unit Mapping Information

This unit replaces and is equivalent to UEENEEH105A Verify functionality and compliance of custom electronic installations.

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 UEEEC0077 Verify functionality and compliance of custom electronic installations

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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 two separate occasions and include:

- applying relevant risk identification, assessment, reporting and control requirements
- applying relevant work health and safety (WHS)/occupational health and safety (OHS) requirements, including the use of risk control measures
- applying sustainable energy principles and practices
- completing reporting in accordance with workplace procedures
- complying with relevant regulations
- conducting all tests safely and correctly
- coordinating work with relevant person/s
- dealing effectively with unplanned events
- identifying and accessing materials, tools, apparatus and testing devices
- identifying non-compliant defects from test results
- identifying visual defects
- isolating circuits/machines/system
- recommending appropriate corrective actions.

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:

- custom electronic installations, testing and verification methods, including:
 - audio reproduction, electronic components:
 - preamplifiers amplifier
 - power and integrated amplifiers
 - graphic equalisers
 - audio reproduction and speaker fundamentals
 - audio/video recording and replay components repair basics
 - audio/video control equipment

- electronic safe working practices
- relevant standards, codes and regulations
- sound reproduction fundamentals
- video systems installation
- relevant manufacturer specifications
- relevant safe work method statements (SWMS)/job safety assessments or risk mitigation processes
- 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 suitable simulated 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 other simulations
- relevant and appropriate materials, tools, equipment and personal protective equipment (PPE) currently used in industry
- resources that reflect current industry practices in relation to verifying compliance and functionality of custom electronic installations
- applicable documentation, including workplace procedures, equipment specifications, regulations, codes of practice and operation manuals.

Links

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