



Australian Government

UEENEEG123A Conduct compliance inspection of LV electrical installations with demand exceeding 100 A per phase

Release: 2

UEENEEG123A Conduct compliance inspection of LV electrical installations with demand exceeding 100 A per phase

Modification History

Not applicable.

Unit Descriptor

Unit Descriptor

1) Scope:

1.1) Descriptor

This unit covers inspection of general electrical installations for verifying compliance with electrical safety regulations. It encompasses working safely, conducting tests and inspections, documenting non-compliance defects, taking/recommending actions resulting from non-compliance defects, applying regulatory requirements and completing inspection reports.

Application of the Unit

Application of the Unit 2)

This unit is intended as an additional competency to relevant competencies previously acquired. It is suitable for employment-based programs under an approved contract of training at the aligned AQF 4 level or higher.

Licensing/Regulatory Information

License to practice 3)

The skills and knowledge described in this unit require a license to practice in the work place subject to regulations for undertaking of electrical work. Practice in workplace and during training is also subject to regulations directly related to occupational health and safety and contracts of

License to practice

3)

training such as new apprenticeships.

Note:

1. Compliance with permits may be required in various jurisdictions and typically relates to the operation of plant, machinery and equipment such as elevating work platforms, powder operated fixing tools, power operated tools, vehicles, road signage and traffic control and lifting equipment. Permits may also be required for some work environments such as confined spaces, working aloft, near live electrical apparatus and site rehabilitation.

2. Compliance may be required in various jurisdictions relating to currency in First Aid, confined space, lifting and risk safety measures.

Pre-Requisites

Prerequisite Unit(s)

4)

Competencies

4.1)

Granting competency in this unit shall be made only after competency in the following unit(s) has/have been confirmed.

UEENEEE101 A Apply Occupational Health and Safety regulations, codes and practices in the workplace

UEENEEE102 A Fabricate, dismantle, assemble of utilities components

UEENEEE104 A Solve problems in d.c circuits

UEENEEE105 A Fix and secure electrotechnology equipment

UEENEEE107 A Use drawings, diagrams, schedules, standards, codes and specifications

UEENEEE137 A Document and apply measures to control OHS risks associated with electrotechnology work

Prerequisite Unit(s)

4)

UEENEEG006 A	Solve problems in single and three phase low voltage machines
UEENEEG033 A	Solve problems in single and three phase electrical apparatus and circuits
UEENEEG063 A	Arrange circuits, control and protection for general electrical installations
UEENEEG101 A	Solve problems in electromagnetic devices and related circuits
UEENEEG102 A	Solve problems in low voltage a.c. circuit
UEENEEG103 A	Install low voltage wiring and accessories
UEENEEG104 A	Install appliances, switchgear and associated accessories for low voltage electrical installations
UEENEEG105 A	Verify compliance and functionality of low voltage general electrical installations
UEENEEG106 A	Terminate cables, cords and accessories for low voltage circuits
UEENEEG107 A	Select wiring systems and cables for low voltage general electrical installations
UEENEEG108 A	Trouble-shoot and repair faults in low voltage electrical apparatus and circuits
UEENEEG109 A	Develop and connect electrical control circuits
UEENEEG122 A	Conduct compliance inspection of single phase LV electrical installations

Literacy and numeracy skills

4.2)

Participants are best equipped to achieve competency in this unit if they have reading, writing and numeracy skills

indicated by the following scales. Description of each scale is given in Volume 2, Part 3 'Literacy and Numeracy'

Reading 5 Writing 5 Numeracy 5

Employability Skills Information

Employability Skills 5)

This unit contains Employability Skills

The required outcomes described in this unit of competency contain applicable facets of Employability Skills. The Employability Skills Summary of the qualification in which this unit of competency is packaged will assist in identifying Employability Skill requirements.

Elements and Performance Criteria Pre-Content

6) Elements describe the essential outcomes of a competency standard unit	Performance Criteria describe the required performance needed to demonstrate achievement of the element. Assessment of performance is to be consistent with the Evidence Guide.
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Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1 Prepare to conduct compliance inspection.	1.1 OHS procedures for a given work area are identified, obtained and understood.
	1.2 Established OHS risk control measures and procedures in preparation for the work are followed.
	1.3 Safety hazards that have not previously been identified are documented and risk control measures devised and implemented in consultation with appropriate person(s).

ELEMENT

PERFORMANCE CRITERIA

	1.4	Documentation or deemed to comply standard on which installation is based is reviewed and understood.
	1.5	Appropriate person(s) are consulted to ensure the work is coordinated effectively with others involved on the work site.
	1.6	Tools, equipment and testing devices needed to verify compliance are obtained in accordance with established procedures and checked for correct operation and safety.
2 Conduct compliance inspect.	2.1	OHS risk control measures and procedures for carrying out the work are followed.
	2.2	The need to test or measure live is determined in strict accordance with OHS requirements and when necessary conducted within established safety procedures.
	2.3	Circuits/machines/plant are checked as being isolated where necessary in strict accordance OHS requirements and procedures.
	2.4	Detailed inspection of the consumer's mains and main switchboard is conducted methodically to ascertain compliance of protection, metering, earthing, circuit arrangements and markings.
	2.5	Detailed inspection of circuits is conducted methodically to ascertain the compliance of the installed wiring, accessories, switchgear / control gear and current-using devices.
	2.6	Where deemed necessary, evidence that electrical equipment complies with safety requirements is sought from appropriate person(s) and sighted.
	2.7	Detailed inspection is conducted to verify compliance of earthing, insulation, polarity, circuit connections and operation of Residual current devices.
	2.8	Fault-loop impedance is ascertained as being sufficiently low by testing, calculation or

ELEMENT	PERFORMANCE CRITERIA
3 Act and report on inspection findings.	deemed to comply with arrangement of the installation.
	2.9 Methods for dealing with unexpected situations are selected on the basis of safety and specified work outcomes.
	3.1 OHS work completion risk control measures and procedures are followed.
	3.2 Non-compliance defects are identified with appropriate clauses in regulatory standards and documented in accordance with established procedures.
	3.3 Actions are taken as a result of non-compliance within the scope of inspection responsibilities and authority and documented.
3.4	Inspection report is made and issued to appropriate person(s) in accordance with established procedures.

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

8) This describes the essential skills and knowledge and their level, required for this unit.

Evidence shall show that knowledge has been acquired of safe working practices and conducting compliance inspection of electrical installations with demand exceeding 100 A per phase.

All knowledge and skills detailed in this unit should be contextualised to current industry practices and technologies.

KS01-EG123A Electrical installations, inspections and safety compliance audits

Evidence shall show an understanding of conducting compliance testing of installations with demand of over 100 amperes per phase to an extent indicated by the following:

T1 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

Evidence Guide

EVIDENCE GUIDE

9) The evidence guide provides advice on assessment and must be read in conjunction with the Performance Criteria, Required Skills and Knowledge, the Range Statement and the Assessment Guidelines for this Training Package.

The Evidence Guide forms an integral part of this unit. It must be used in conjunction with all parts of this unit and performed in accordance with the Assessment Guidelines of this Training Package.

Overview of Assessment 9.1)

Longitudinal competency development approaches to assessment, such as Profiling, require data to be reliably gathered in a form that

can be consistently interpreted over time. This approach is best utilised in Apprenticeship programs and reduces assessment intervention. It is the Industry's preferred model for apprenticeships. However, where summative (or final) assessment is used it is to include the application of the competency in the normal work environment or, at a minimum, the application of the competency in a realistically simulated work environment. It is recognised that, in some circumstances, assessment in part or full can occur outside the workplace. However, it must be in accordance with industry and regulatory policy.

Methods chosen for a particular assessment will be influenced by various factors. These include the extent of the assessment, the most effective locations for the assessment activities to take place, access to physical resources, additional safety measures that may be required and the critical nature of the competencies being assessed.

The critical safety nature of working with electricity, electrical equipment, gas or any other hazardous substance/material carries risk in deeming a person competent. Sources of evidence need to be 'rich' in nature to minimise error in judgment.

Activities associated with normal every day work have a bearing on the decision as to how much and how detailed the data gathered will contribute to its 'richness'. Some skills are more critical to safety and operational requirements while the same skills may be more or less frequently practised. These points are raised for the assessors to consider when choosing an assessment method and developing assessment instruments. Sample assessment instruments are included for Assessors in the Assessment Guidelines of this Training Package.

Critical aspects of evidence required to demonstrate competency in this unit 9.2)

Before the critical aspects of evidence are considered all prerequisites shall be met.

Evidence for competence in this unit shall be considered holistically. Each element and associated performance criteria shall be demonstrated on at least two occasions in accordance with the 'Assessment Guidelines – UEE11'. Evidence shall also comprise:

- A representative body of work performance demonstrated

within the timeframes typically expected of the discipline, work function and industrial environment. In particular this shall incorporate evidence that shows a candidate is able to:

- Implement Occupational Health and Safety workplace procedures and practices including the use of risk control measures as specified in the performance criteria and range statement
- Apply sustainable energy principles and practices as specified in the performance criteria and range statement
- Demonstrate an understanding of the essential knowledge and associated skills as described in this unit. It may be required by some jurisdictions that RTOs provide a percentile graded result for the purpose of regulatory or licensing requirements.
- Demonstrate an appropriate level of skills enabling employment
- Conduct work observing the relevant Anti Discrimination legislation, regulations, policies and workplace procedures
- Demonstrated consistent performance across a representative range of contexts from the prescribed items below:
 - Conduct compliance inspection of electrical installations with demand exceeding 100 A per phase as described in 8) and including:

A Obtaining appropriate documentation and equipment in preparation for the inspection.

B Conducting detailed inspections and testing methodically.

C Identifying non-compliance defects.

D Relating non-compliance defects with appropriate clause in regulatory standards.

E Acting within the inspection authority when dealing with non-compliance defects.

F Documenting and reporting inspection findings.

G Dealing with unplanned events by drawing on essential knowledge and skills to provide appropriate solutions incorporated in the holistic assessment with the above listed items.

Context of and specific resources for assessment 9.3)

This unit should be assessed as it relates to normal work practice

using procedures, information and resources typical of a workplace. This should include:

OHS policy and work procedures and instructions.

Suitable work environment, facilities, equipment and materials to undertake actual work as prescribed by this unit.

These should be part of the formal learning/assessment environment.

Note:

Where simulation is considered a suitable strategy for assessment, conditions must be authentic and as far as possible reproduce and replicate the workplace and be consistent with the approved industry simulation policy.

The resources used for assessment should reflect current industry practices in relation to conducting compliance inspection of electrical installations with demand exceeding 100 A per phase.

Method of assessment

9.4)

This unit shall be assessed by methods given in Volume 1, Part 3 'Assessment Guidelines'.

Note:

Competent performance with inherent safe working practices is expected in the industry to which this unit applies. This requires assessment in a structured environment which is primarily intended for learning/assessment and incorporates all necessary equipment and facilities for learners to develop and demonstrate the essential knowledge and skills described in this unit.

Concurrent assessment and relationship with other units

9.5)

There are no concurrent assessment recommendations for this unit.

The critical aspects of occupational health and safety covered in unit UEENEEE101A and other discipline specific occupational health and safety units shall be incorporated in relation to this unit.

Range Statement

RANGE STATEMENT

10) This relates to the unit as a whole providing the range of contexts and conditions to which the performance criteria apply. It allows for different work environments and situations that will affect performance.

This unit shall be demonstrated by conducting compliance inspection of at least two electrical installations comprising consumer's mains, main earthing system and main switchboard and sub-mains, earthing system and distribution boards related to the control of an individual occupier's portion of a multiple installation and final sub circuits.

Generic terms used throughout this Vocational Standard shall be regarded as part of the Range Statement in which competency is demonstrated. The definition of these and other terms that apply are given in Volume 2, Part 2.1.

Unit Sector(s)

Not applicable.

Competency Field

Competency Field	11)
	Electrical