



Australian Government

UEENEEG113A Install and maintain emergency safety systems

Release: 2

UEENEEG113A Install and maintain emergency safety systems

Modification History

Not applicable.

Unit Descriptor

Unit Descriptor

1) Scope:

1.1) Descriptor

This unit covers the installation and maintenance of fire and smoke control, emergency supplies and early warning systems in buildings and premises. It encompasses working safely and to installation and maintenance standards, complying with maintenance schedules and completing the necessary documentation.

Application of the Unit

Application of the Unit 2)

This unit is intended for competency development in entry-level employment based programs incorporated in approved contracts of training.

Licensing/Regulatory Information

License to practice 3)

The skills and knowledge described in this unit require a license to practice in the workplace 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 where applicable contracts of training such as 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

License to practice**3)**

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
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

Prerequisite Unit(s) 4)

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
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

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 4 Writing 4 Numeracy 4

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

Employability Skills 5)

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.

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1 Prepare to install and maintain emergency safety systems	<p>1.1 OHS procedures for a given work area are identified, obtained and understood.</p> <p>1.2 Health and safety risks are identified and established risk control measures and procedures in preparation for the work are followed.</p> <p>1.3 Safety hazards that have not previously been identified are noted and established risk control measures are implemented.</p> <p>1.4 Installation/maintenance is prepared in consultation with other affected by the work and sequenced appropriately.</p> <p>1.5 The nature and location of the work is determined from documentation or appropriate person to establish the scope of work to be undertaken.</p> <p>1.6 Location of apparatus and associated equipment is planned within the constraints of the building structure, significant and regulations.</p> <p>1.7 Advice is sought from appropriate persons to ensure the work is coordinated effectively with others.</p>

ELEMENT**PERFORMANCE CRITERIA**

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| | 1.8 | Material needed for the installation work is obtained in accordance with established procedures and checked against job requirements. |
| | 1.9 | Tools, equipment and testing devices needed to for the installation work are obtained in accordance with established procedures and checked for correct operation and safety. |
| | 1.10 | Preparatory work is checked to ensure no damage has occurred and complies with requirements. |
| 2 | Install and maintain emergency safety systems | |
| | 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 | Apparatus and associated equipment are installed and maintained to comply with technical standards and job specifications and requirements with sufficient access to affect terminations, adjustment and maintenance. |
| | 2.5 | Wiring is terminated at apparatus and associated equipment in accordance with manufacture's specifications and functional and regulatory requirements. |
| | 2.6 | Established methods for dealing with unexpected situations are discussed with appropriate person or persons and documented. |
| | 2.7 | Unexpected situations are dealt with safely and with the approval of an authorised person. |
| | 2.8 | Ongoing checks of the quality of installed apparatus are undertaken in accordance with established procedures. |

ELEMENT	PERFORMANCE CRITERIA
	2.9 Apparatus installation is carried out efficiently without unnecessary waste of materials or damage to apparatus, circuits, the surrounding environment or services and using sustainable energy principles.
3 Completion and report installation and maintenance activities.	3.1 OHS work completion risk control measures and procedures are followed.
	3.2 Work site is cleaned and made safe in accordance with established procedures.
	3.3 Final checks are made to that the installed and maintained apparatus conforms to requirements.
	3.4 'As-installed' emergency safety systems apparatus and associated equipment is documented and an appropriate person or persons notified 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 installing and maintaining emergency safety systems.

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

KS01-EG113A

Electrical installations, emergency safety systems

Evidence shall show an understanding of installing and maintaining electrical emergency safety systems to an extent indicated by the following aspects:

T1 Cells and batteries in common use encompassing:

- Primary cells
- Secondary cells
- Discharging
- Recharging
- Terminal voltages
- Capacity
- Discharge and recharge characteristics
- Battery configurations and applications
- Cell and battery safety practices.

T2 Electrical installations, emergency systems encompassing:

- Principles and practices of electrical emergency safety systems for electrical installations as contained in relevant Australian Standards, Australian building code and associated hazards documentation
- Arrangement and requirements for fire and smoke control equipment
- Arrangement and requirements for emergency warning and intercommunications systems
- Arrangement and requirement for emergency power supplies

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:
 - Install and maintain emergency safety systems as described in 8) and including:
 - A Determining the operating parameters of existing electrical safety systems.
 - B Using established problem solving methods.
 - C Directing personnel to take relevant measurements.
 - D Interpreting measured values appropriately.

- E Providing effective solutions to electrical safety system problems.
- F Giving written justification of solutions provided.
- 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 installing and maintaining emergency systems.

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)

For optimisation of training and assessment effort, competency development in this unit may be arranged concurrently with 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 in relation to fire and smoke control, warning systems and emergency supplies.

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