



**Australian Government**

# **UEENEEH164A Commission large fire protection systems**

**Release: 2**

# UEENEEH164A Commission large fire protection systems

## Modification History

Not applicable.

## Unit Descriptor

### Unit Descriptor

#### 1) Scope:

##### 1.1) Descriptor

This unit covers commissioning fire protection systems that include multiple connected detection, warning and fire control devices and remote monitoring. It encompasses working safely, applying knowledge of fire protection scenarios, using fire protection standards and protocols, entering system instructions, testing functionality of fire protection components and system operation, and documentation of commissioning activities.

## 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.

## Licensing/Regulatory Information

### License to practice 3)

The skills and knowledge described in this unit require a license to practice in the workplace where plant and equipment operate at voltage above 50 V a.c. or 120 V d.c. However 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 regulations directly related to occupational

**License to practice****3)**

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 platforms, powder operated fixing tools, power operated tools, vehicles, road signage and traffic control, lifting equipment and the like. 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.

UEENEEE101A	Apply Occupational Health and Safety regulations, codes and practices in the workplace
UEENEEE102A	Fabricate, assemble and dismantle utilities industry components
UEENEEE105A	Fix and secure electrotechnology equipment
UEENEEE107A	Use drawings, diagrams, schedules, standards, codes and specifications
UEENEEH161A	Install fire detection and warning system apparatus
UEENEEH162A	Enter and verify programs for fire

**Prerequisite Unit(s) 4)**

protection systems

UEENEEH163A Commission large fire protection systems

**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 44      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 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 commission	<p>1.1 OHS procedures for a given work area are identified, obtained and understood.</p> <p>1.2 Established OHS risk control measures and procedures are followed in preparation for the work.</p> <p>1.3 Safety hazards, which have not previously been identified, are documented and risk control measures devised and implemented in consultation with appropriate personnel.</p> <p>1.4 The extent of commissioning is determined from reports and other documentation and from discussion with appropriate personnel.</p> <p>1.5 Appropriate personnel are consulted to ensure the work is co-ordinated effectively with others involved on the work site.</p> <p>1.6 Tools, equipment and testing devices needed to program and commission are obtained in accordance with established procedures and checked for correct operation and safety.</p>
2 Commission fire protection systems	<p>2.1 OHS risk control measures and procedures for carrying out the work are followed.</p> <p>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.</p> <p>2.3 Circuits/machines/plant are checked as being isolated where necessary in strict accordance OHS requirements and procedures.</p> <p>2.4 Fire protection system components are verified as complying with design specifications and regulations.</p> <p>2.5 Fire protection devices are checked for correct location and alignment.</p> <p>2.6 Fire protection functions are tested in accordance</p>

<b>ELEMENT</b>	<b>PERFORMANCE CRITERIA</b>
	with commissioning requirements.
	2.7 Sources of fire protection system anomalies are identified and corrected.
	2.8 Decisions for dealing with unexpected situations are made from discussions with appropriate persons and job specifications and requirements.
	2.9 Methods for dealing with unexpected situations are selected on the basis of safety and specified work outcomes.
	2.10 Commissioning activities are carried out efficiently without waste of materials or damage to apparatus and the surrounding environment or services and using sustainable energy practices.
3 Complete and report programming and commissioning activities	3.1 OHS work completion risk control measures and procedures are followed.
	3.2 Work site is made safe in accordance with established safety procedures.
	3.3 'As-installed' fire protection system is documented and an appropriate person or persons notified in accordance with established procedures.

## Required Skills and Knowledge

### REQUIRED SKILLS AND KNOWLEDGE

8) Evidence shall show that knowledge has been acquired of safe working practices and commissioning commercial fire protection systems.

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

#### **KS01-EH164A Fire protection systems, commissioning process**

Evidence shall show an understanding of the commissioning process of fire protection systems to an extent indicated by the following aspects:

##### 2.9.79.2

- T1. Purpose of commissioning
- T2. Commissioning planning and documentation
- T3. Initial tests and adjustments
- T4. Commissioning procedures

## 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 the 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-preferred model for apprenticeships. However, where summative (or final) assessment is used it must 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 accord 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 everyday work influence decisions about how/how much 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:
  - Commission commercial fire protection systems as described in 8) and including:
    - a. Identifying the extent of the fire protection system.
    - b. Verify compliance of components.
    - c. Testing system functionality.
    - d. Identifying and correcting function anomalies.
    - e. Documenting 'as-installed' system correctly.
    - f. Dealing with unplanned events by drawing on essential knowledge and skills to provide appropriate solutions incorporated in a holistic assessment with the above listed items.

Note:

Successful completion of relevant vendor training may be used to contribute to evidence on which competency is deemed. In these cases the alignment of outcomes of vendor training with performance criteria and critical aspects of evidence shall be clearly identified.

**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 commissioning commercial fire protection 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 that the specified essential knowledge and associated skills are assessed 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.

## 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 commissioning at least two different fire alarms and warning systems. Commissioning shall include the following system components:

- Fire alarm system with at least 50 input devices, 20 output device and 2 system interface controls
- Fire warning system with at least 50 speakers, 5 interface communication devices and 2 warning indicators.
- Voice message facilities

Note:

1. Input devices can be conventional, analogue or analogue addressable fire detectors, flow switch connections or switch connections and the like.

2. Output devices can be shutdown signal, door or system release controls, solenoid valve controls and the like.

3. System interface controls can be communication signals to remote control and indicating equipment, Building monitoring systems, paging system, colour graphics and or the like.

4. Interface communication devices can be Warden In communication phones, Remote PA inputs and the like.

5. Warning indicators are flashing lights for hearing impaired persons, fire brigade building indication and the like.

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)**

Electronics

