Australian Government

CPCPFS4025A Commission fire alarm and detection system interface devices

Release 1

INDUSTRY SKILLS COUNCILS
Creating Australia's Future

CPCPFS4025A Commission fire alarm and detection system interface devices

Modification History

Changes to unit title, descriptor, performance criteria, required skills and knowledge, range statement and critical aspects

Not equivalent to CPCPFS4005A

Unit Descriptor

This unit of competency specifies the outcomes required to commission fire alarm and detection interface systems. It covers preparation for the work, identification and confirmation of system specifications and requirements, physical testing and commissioning of the system interface devices, and work finalisation processes, including records and documentation.

Application of the Unit

This unit of competency supports the needs of experienced tradespeople with responsibility for testing and commissioning fire alarm and detection system interface devices.
Site location for work application may be a new work site or an existing structure being renovated, extended, restored or maintained.

Licensing/Regulatory Information

The skills and knowledge described in this unit require a licence to practise in a workplace where plant and equipment interface devices operate at voltages above extra low voltage (e.g. 50 V a.c. or 120 V d.c.). However other conditions may apply in some jurisdictions subject to regulations related to electrical and plumbing work. Practice in the workplace and during training is also subject to regulations directly related to work health and safety and where applicable contracts of training, such as apprenticeships.

Pre-Requisites

Nil

Employability Skills Information

This unit contains employability skills.

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.

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Elements and Performance Criteria

1	Prepare for work.	1.1	Plans and specifications are obtained.
		1.2	**Work health and safety** (WHS) requirements associated with the workplace environment and commissioning fire alarm and detection system interface devices are adhered to throughout the work.
		1.3	**Quality assurance requirements** are identified and adhered to according to workplace requirements.
		1.4	Tasks are planned and sequenced in conjunction with others involved in or affected by the work.
		1.5	**Tools and equipment** for **commissioning fire alarm and detection system interface devices**, including personal protective equipment, are selected and checked for serviceability.
		1.6	Work area is prepared to support efficient commissioning process.
		1.7	**Sustainability principles and concepts** are observed when preparing for and undertaking work process.
2	Identify system requirements.	2.1	System design requirements are identified and confirmed from job specifications and according to **relevant standards**.
		2.2	Requirements of fire alarm and detection system commissioning are identified according to relevant Australian standards, **statutory and regulatory authorities'** requirements and job specifications.
3	Test and commission system.	3.1	Fire alarm and detection system interface devices are checked to ensure type and installation conform to relevant Australian standard, job specifications, manufacturer recommendations and authorities' requirements.
		3.2	Operation of system interface devices is tested according to job specifications, manufacturer recommendations

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			and authorities' requirements and adjusted as required.
		3.3	System interface devices are commissioned and maintained to ensure correct operation according to relevant standards, and manufacturer and job specifications.
4	Clean up work area.	4.1	Work area is cleared and materials disposed of, reused or recycled according to legislation, regulations, codes of practice and job specifications.
		4.2	Tools and equipment are cleaned, checked, maintained and stored according to manufacturer recommendations and workplace procedures.
		4.3	Information is accessed and documentation completed according to workplace requirements.

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Required Skills and Knowledge

This section describes the skills and knowledge required for this unit.

Required skills

- communication skills to:
    - access information
    - determine requirements
    - enable clear and direct communication, using questioning to identify and confirm requirements, share information, listen and understand
    - follow and give instructions
    - use language and concepts appropriate to cultural differences
    - use and interpret non-verbal communication, such as hand signals
- initiative and enterprise skills to identify and report to appropriate personnel any faults in tools, equipment or materials
- literacy skills to:
    - complete workplace documentation
    - read and interpret:
        - documentation from a variety of sources
        - plans and specifications
- numeracy skills to apply measurements and calculations
- planning and organising skills to:
    - plan and sequence tasks with others
    - plan and set out work
- teamwork skills to able to coordinate and action tasks, work with others and relate to people from a range of cultural and ethnic backgrounds and with varying physical and mental abilities
- technology skills to:
    - access and understand site-specific instructions in a variety of media
    - disconnect and reconnect system interface devices and associated wiring
    - reconfirm operation of control and indicating equipment (CIE)
    - use mobile communication technology

Required knowledge

- components and materials of fire alarm and detection system interface devices
- correct location and setting of interface devices to meet system design standards
- difference between extra low voltage and low voltage system interface wiring connection

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- job safety analysis (JSA) and safe work method statements (SWMS)
- process of installing, testing and commissioning fire alarm and detection system interface devices
- properties of water, including pressure and flow rates
- relevant statutory requirements related to commissioning fire alarm and detection system interface devices, including automatic smoke and heat venting systems, air handling systems, and emergency warning and intercommunication systems
- SI system of units
- sources of information and processes for calculating suitable replacement of interface devices
- standards applicable to the service
- systems operations and procedures
- workplace and equipment safety requirements

Evidence Guide

The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.

Overview of assessment	This unit of competency could be assessed in the workplace or a close simulation of the workplace environment providing that simulated or project-based assessment techniques fully replicate plumbing and services workplace conditions, materials, activities, responsibilities and procedures.
	It may be assessed on its own or as part of an integrated assessment activity involving preparing, planning and conducting system commissioning procedures for one fire alarm and detection system and completing all associated documentation.
Critical aspects for assessment and evidence required to demonstrate competency in this unit	A person who demonstrates competency in this unit must be able to provide evidence of:

- locating, interpreting and applying relevant information, standards and specifications to commissioning fire alarm and detection system interface devices
- applying safety requirements throughout the work sequence, including electrical safety requirements and the use of personal protective clothing and equipment
- commissioning one fire alarm and detection system interface device, including one pressure switch and one flow switch, plus an actuator and a control and indicating panel, ensuring:
    - applying sustainability principles and concepts
    - correctly identifying location, design specification and details of the system
    - correctly selecting and using appropriate processes, tools and equipment
    - completing all work to specification
    - complying with regulations, standards and organisational quality procedures and processes.

Context of and specific resources for assessment	This competency is to be assessed using standard and authorised work practices, safety requirements and

environmental constraints.

Assessment of essential underpinning knowledge will usually be conducted in an off-site context.

Assessment is to comply with relevant regulatory or Australian standards' requirements.

Resource implications for assessment include:

- an induction procedure and requirement
- realistic tasks or simulated tasks covering the minimum task requirements
- relevant specifications and work instructions
- tools and equipment appropriate to applying safe work practices
- support materials appropriate to activity
- workplace instructions relating to safe work practices and addressing hazards and emergencies
- material safety data sheets
- research resources, including industry-related systems information.

Reasonable adjustments for people with disabilities must be made to assessment processes where required. This could include access to modified equipment and other physical resources, and the provision of appropriate assessment support.

Method of assessment	Assessment methods must:
	- satisfy the endorsed Assessment Guidelines of the Construction, Plumbing and Services Training Package
- include direct observation of tasks in real or simulated work conditions, with questioning to confirm the ability to consistently identify and correctly interpret the essential underpinning knowledge required for practical application
- reinforce the integration of employability skills with workplace tasks and job roles
- confirm that competency is verified and able to be transferred to other circumstances and environments.

Validity and sufficiency of evidence requires that:

- competency will need to be demonstrated over a period of time reflecting the scope of the role and the practical requirements of the workplace |

- where the assessment is part of a structured learning experience the evidence collected must relate to a number of performances assessed at different points in time and separated by further learning and practice, with a decision on competency only taken at the point when the assessor has complete confidence in the person's demonstrated ability and applied knowledge
- all assessment that is part of a structured learning experience must include a combination of direct, indirect and supplementary evidence.

Assessment processes and techniques should as far as is practical take into account the language, literacy and numeracy capacity of the candidate in relation to the competency being assessed.

Supplementary evidence of competency may be obtained from relevant authenticated documentation from third parties, such as existing supervisors, team leaders or specialist training staff.

Range Statement

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.

Work health and safety is to be according to commonwealth, state and territory legislation and regulations and may include:	- handling of materials, including hazardous materials and substances - hazard control - personal protective equipment, including that prescribed under legislation, regulations and workplace policies and practices - safe operating procedures, including recognising and preventing hazards associated with: - electricity - other machines - surrounding structure and facilities - trip hazards - underground services - use of tools and equipment

	- work site visitors and the public - working at heights - working in confined spaces - working in proximity to others - use of firefighting equipment - use of first aid equipment - workplace environment and safety.
Quality assurance requirements may include:	- Environment Protection Authority - internal company quality assurance policy and risk management strategy - International Standards Organisation - site safety plan - workplace operations and procedures.
Tools and equipment may include:	- hand and power tools - test equipment.
Commissioning fire alarm and detection system interface devices:	- may include verifying interface device operations, including: - alarm volume - annunciators - audible, visible and combination alarms - controls - coordination of alarm signals with other services - dispatching systems - public reporting systems - signal transmission - tactile alarm appliances for people with disabilities - zone alarms - interface devices may include: - pressure switches - flow switches - actuators - solenoids - valve monitoring devices.

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Sustainability principles and concepts:	• cover the current and future social, economic and environmental use of resources • may include: 　• efficient energy usage 　• efficient water usage, including harvesting and disposal.
Relevant standards may include:	• AS1670.1 Fire detection, warning, control and intercom systems – System design, installation and commissioning – Fire • AS2118.1 Automatic fire sprinkler systems Part 1 – General requirements • AS1851 Maintenance of fire protection systems and equipment.
Statutory and regulatory authority include:	• commonwealth, state or territory, and local authorities administering applicable Acts, regulations and codes of practice.

Unit Sector(s)

Functional area

Unit sector   Plumbing and services

Custom Content Section

Not applicable.