Australian Government

Department of Education, Employment and Workplace Relations

CPPFES2029A Conduct functional tests on fire detection, warning and intercommunication devices

Release: 1

CPPFES2029A Conduct functional tests on fire detection, warning and intercommunication devices

Modification History

New unit
No equivalent unit

Unit Descriptor

This unit of competency specifies the outcomes required to complete routine yearly inspect, test and preventive maintenance procedures to verify that fire detection, warning and intercommunication devices are functioning as intended.

The unit involves working safely, isolating plant and interfaces, conducting compliance tests, visually inspecting, identifying non-compliance defects, fulfilling mandatory reporting requirements and resetting fire control and indicating equipment (CIE).

Application of the Unit

This unit of competency supports fire protection technicians responsible for functional testing of electrical fire protection systems.

Individuals operate within the scope of their defined roles and responsibilities and perform the functional tests as part of their work duties and according to work procedures and Australian standards to verify that equipment functions as intended.

Licensing/Regulatory Information

The service technician is not permitted to undertake any installation, replacement, maintenance and repair functions that are restricted to licensed trades or occupations (subject to relevant state or territory regulations).

Different states and territories may have regulatory mechanisms that apply to this unit. Candidates are advised to check for regulatory limitations.

Pre-Requisites

Not applicable.

Employability Skills Information

This unit contains employability skills.

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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.

Elements and Performance Criteria

1	Apply compliance requirements to service operations.	1.1	***Legislative and industry requirements*** are interpreted, confirmed and applied to ***organisational requirements***.
		1.2	Location and equipment are ***checked for compliance*** with legislative and industry requirements and ***action i***s taken according to organisational requirements.
		1.3	Preparations are made for conducting functional inspection and testing according to organisational requirements.
2	Conduct inspections and record results.	2.1	Workplace procedures are followed and risk control measures applied when inspecting ***fire detection, warning and intercommunication devices***.
		2.2	Fire detection, warning and intercommunication devices are identified and their function is determined with reference to installation drawings**.**
		2.3	Plant and other ***system interfaces*** to be isolated are identified, to allow the conduct of testing activity according to l**egislative and industry requirements**.
		2.4	Yearly visual inspections are conducted as described in l**egislative and industry requirements.**
		2.5	Inspection results for fire detection, warning and intercommunication devices are recorded according to l**egislative and industry requirements.**

3	Conduct testing and record results.	3.1	Test methods are implemented according to **legislative and industry requirements.**
		3.2	Routine yearly testing procedures are conducted to verify that each device operates as intended.
		3.3	Test results are compared with l**egislative and industry requirements.**
		3.4	Results are documented according to l**egislative and industry requirements.**
		3.5	Report is forwarded to persons for action according to l**egislative and industry requirements.**
		3.6	System is reinstated according to organisational requirements.
4	Conduct preventive maintenance and record results.	4.1	Requirements for yearly preventive maintenance of fire detection, warning and intercommunication devices are determined according to l**egislative and industry requirements.**
		4.2	Preventive maintenance procedures are conducted on devices according to l**egislative and industry requirements.**
		4.3	System is reinstated according to organisational requirements.

Required Skills and Knowledge

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

Required skills

- effective customer service skills
- language, literacy and numeracy skills to:
    - communicate with others clearly and concisely, verbally and in writing
    - read and comply with work instructions and specifications
    - read and record measurements
    - read fire system installation drawings
    - record and report information neatly and legibly
- planning and organising skills to:
    - estimate time to complete activities
    - prioritise tasks
- interpersonal skills to relate to people from a range of social and cultural backgrounds
- skills to work safely when:
    - applying workplace housekeeping procedures
    - using hand and power tools
- technical skills to:
    - check that spacing of detectors is compliant with the relevant design standard
    - identify:
        - fire detection, warning and intercommunication devices
        - unsuitable environments for different types of detectors to avoid false alarms
    - operate valves, switches and levers to test system operation
    - perform yearly survey according to AS 1851 Maintenance of fire protection systems and equipment
    - select tools, equipment and materials for conducting yearly inspect and test procedures on fire detection, warning and intercommunication devices according to AS 1851 Maintenance of fire protection systems and equipment

Required knowledge

- awareness of on-site work permit requirements
- basic operation and purpose of fire detection, warning and intercommunication devices
- common controls and indicators on CIE
- environmental conditions that cause fire detection, warning and intercommunication devices to create false alarms or fail to operate
- key features of legislation, regulations and codes applicable to inspecting, testing and preventive maintenance, including:

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- implications of not applying legislative requirements to job functions
- safety requirements for:
    - handling, storage, disposal and connection requirements for batteries used in CIEs
    - using tools, equipment and materials
- types of electrical safeguards used to protect persons and property
- key functional differences between conventional and addressable fire detection, warning and intercommunication devices
- location requirements for fire detection, warning and intercommunication devices
- methodology used to conduct inspecting, testing and preventive maintenance on fire detection, warning and intercommunication devices

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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 by observation of practical demonstration of inspection, test and preventive maintenance of fire detection, warning and intercommunication devices according to the yearly schedule frequency specified in the relevant Australian standard.
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 the required skills and knowledge specified in this unit. In particular the person should demonstrate the ability to conduct inspection, testing and preventive maintenance for the yearly schedule according to the current Australian standard on the following systems: - fire detection and alarm systems that consist of both conventional and addressable devices installed to AS 1670.1 Fire detection, warning, control and intercom systems – System design, installation and commissioning – Fire - warning sound and intercom system for emergency purposes installed to comply with: - AS 1670.4 Fire detection, warning, control and intercom systems – System design, installation and commissioning – Sound systems and intercom systems for emergency purposes - AS 2220 Rules for emergency warning and intercommunication systems for buildings.
Context of and specific resources for assessment	Assessment of essential underpinning knowledge may be conducted in an off-site context. It is to comply with relevant regulatory or Australian standards' requirements. Resource implications for assessment include: - assessment documentation - necessary tools, equipment, manuals and relevant documentation - operational fire detection, warning and intercommunication systems - test equipment - training and assessment record book.
Method of assessment	Assessment methods must: satisfy the endorsed Assessment Guidelines of the Property 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.
Guidance information for assessment	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. 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. This unit could be assessed on its own or in combination with other units relevant to the job function, for example: • CPPFES2047A Inspect and test control and indicating equipment.

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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.

Legislative and industry requirements may include:	• dangerous goods regulations
	• licensing arrangements
	• environmental regulations
	• OHS legislation, regulations and codes
	• relevant commonwealth and state or territory building Acts, regulations and codes, such as Building Code of Australia (BCA)
	• relevant Australian standards, such as:
	  • AS 1670.4 Fire detection, warning, control and intercom systems – System design, installation and commissioning – Sound systems and intercom systems for emergency purposes
	  • AS 1851 Maintenance of fire protection systems and equipment
	  • AS 2220 Rules for emergency warning and intercommunication systems for buildings
	  • note: Australian standards are frequently revised and users must always check for currency and amendments
	• other relevant legislation relating to fire protection equipment, including:
	  • international shipping codes
	  • marine codes for different Australian States
	  • requirements of Australian petroleum industry.

Organisational requirements may be located in quality assurance and procedures manuals relating to:	• customer-specific contractual requirements • documentation and information systems and processes • legal and organisational policies and guidelines, including personnel practices and guidelines outlining work roles, responsibilities and delegations • legislation relevant to service operation • use of electronic job scheduling and communication devices.
Checking for compliance may include:	• undertaking commissioning tests detailed in Australian standards and manufacturers' documentation to verify performance of an installed, repaired or altered piece of equipment or system • applying inspection, test and survey requirements to equipment or systems to determine that they are: • capable of operating as originally installed

	- still suitable for the fire hazard or risk being protected as no change in occupancy or use of the area protected has occurred since the equipment or system was last modified or installed - providing the coverage and protection needed to meet original design and performance requirements - reviewing documentation to verify that installed systems comply with legislative and industry requirements, such as: - building's essential services or fire safety measures listing - relevant commonwealth and state or territory building Acts, regulations and codes, such as BCA - relevant Australian standards listed on essential service listing.
Action may include:	- advising customer - documenting non-compliance - making equipment safe - reporting, as required.
Fire detection, warning and intercommunication devices may include:	- fire detection activating devices, such as: - smoke and heat alarms - point-type heat and smoke detectors - linear heat and smoke detectors - aspirating smoke detectors - flame detectors - carbon monoxide detectors - manual call points - intercommunication devices, such as: - remote public address (PA) system microphones - warden intercommunication points, such as telephones - warning activating devices, such as: - visual warning devices - load speakers - sounders - bells.
System interfaces may include:	- devices that operate signals between the CIE and other services, such as: - building monitoring services - fire brigade monitoring services - other life safety systems, such as: - warning systems - suppression systems - components, such as:

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	• contactors • deactivation switches • disconnection of wiring by an electrical plug arrangement • isolation switches • relays • solenoid valves.

Unit Sector(s)

Fire protection equipment

Custom Content Section

Not applicable.