



Australian Government

Department of Education, Employment and Workplace Relations

PRMFSSI08A Validate installation, testing and maintenance of fire safety systems

Release: 1

PRMFSSI08A Validate installation, testing and maintenance of fire safety systems

Modification History

Not Applicable

Unit Descriptor

Unit descriptor

This unit of competency covers the skills and knowledge required to plan and observe necessary random and scheduled inspection, testing and maintenance of fire safety systems and associated fire safety sub-systems to ensure that the installation complies with, and will perform to, design documentation, the relevant standards, codes, legislative requirements and functions, in accordance with the documented design specifications.

These work functions are carried out without supervision.

Fire safety system inspectors are not expected to validate test procedures and data requirements for fire safety sub-system that form alternative, fire-engineered solutions that do not comply with the relevant Australian Standard for that sub-system.

Note: It is a prerequisite of this unit of competency that fire safety system inspectors demonstrate the relevant technical skills and knowledge prior to inspecting fire safety systems and associated fire safety sub-systems.

Application of the Unit

Not Applicable

Licensing/Regulatory Information

Not Applicable

Pre-Requisites

Not Applicable

Employability Skills Information

Not Applicable

Elements and Performance Criteria Pre-Content

Not Applicable

Elements and Performance Criteria

ELEMENT

PERFORMANCE CRITERIA

- | | |
|---|---|
| 1 Conduct inspections of the installation process | <ul style="list-style-type: none">1.1 Determine whether staged inspections are required during the installation process to validate the fire safety system and associated fire safety <i>sub-systems</i> upon completion1.2 Schedule and communicate timing of inspection to the <i>client</i> and, if required, to <i>other stakeholders</i>1.3 Check and confirm that the fire safety system and associated fire safety <i>sub-systems</i> are installed in accordance with <i>relevant standards, codes and legislation, specification requirements</i> and staged inspections1.4 Identify and record non-compliance issues that impact on the fire safety system installation and test program1.5 Identify and record <i>local conditions</i> and regulations that impact on the fire safety system installation and test program1.6 Review remedial actions for non-compliance issues and the impact of <i>local conditions</i> on the test program, within area of expertise and responsibility1.7 Communicate unresolved non-compliance issues and the impact of <i>local conditions</i> on the test program to <i>client and other stakeholders</i> |
| 2 Monitor integration of the fire safety system with associated fire safety sub-systems | <ul style="list-style-type: none">2.1 Establish the interdependence of the fire safety system with the associated fire safety <i>sub-systems</i>2.2 Determine power supply needs and, if necessary, confirm with the relevant authority2.3 Check that all associated <i>sub-systems</i> of the fire safety system are compatible and coordinated in their operation2.4 Check that back-up systems are available, where required2.5 Ensure the safe operation of any <i>evacuation systems</i> not coordinated with the fire safety system and associated fire safety <i>sub-systems</i> |
| 3 Oversee the inspection, testing and preventative maintenance of the fire safety system and associated fire safety sub-systems | <ul style="list-style-type: none">3.1 Compare inspection and test results with required performance data3.2 Check that the maintenance program is carried out by <i>competent personnel</i>3.3 Monitor the maintenance program to ensure |

ELEMENT**PERFORMANCE CRITERIA**

	that the program is conducted in accordance with the <i>relevant standards and maintenance protocols</i>
	3.4 Monitor the identification of non-compliance and the impact of <i>local conditions</i> on the maintenance program
	3.5 Communicate unresolved non-compliance issues and the impact of <i>local conditions</i> on the maintenance program to <i>client and relevant stakeholders</i>
	3.6 Circulate the documented test protocol and resultant data to the <i>client and relevant stakeholders</i>
4 Collate and prepare summary fire safety system performance documentation	4.1 Collate documentation produced for the installation, commissioning and maintenance of the fire safety system and associated fire safety <i>sub-systems</i>
	4.2 Confirm all modifications to original specifications and technical drawings and plans are documented and dated
	4.3 Make reference to relevant standards, codes and legislation validating the performance and functionality of the fire safety system and associated <i>sub-systems</i>
	4.4 Prepare recommendation for approval and/or compliance documentation and forms as appropriate
	4.5 Produce reports, using agreed timelines and format which include areas tested, areas checked and assessed, and areas of non-compliance

Required Skills and Knowledge

Refer to Evidence Guide

Evidence Guide

EVIDENCE GUIDE

The evidence guide identifies the requirements to be demonstrated to confirm competence for this unit. Assessment must confirm sufficient ability to use appropriate skills and knowledge to validate installation, testing and maintenance of fire safety systems. Assessment of performance should be conducted within an agreed timeframe, covering all categories within the range statement applicable to normal work requirements.

Critical aspects of competency

- Observe installation and monitor maintenance programs for fire safety systems and associated fire safety sub-systems.
- Determine the interdependence, interface and compatibility of fire safety systems and associated fire safety sub-systems with other fire safety systems.
- Identify and record local conditions and regulations that impact on the installation and testing of the fire safety system and associated fire safety sub-systems.
- Monitor testing and preventative programs and ensure compliance with relevant standards, codes, legislation, specification requirements, and test protocols.
- Interpret and match inspection and testing results against documented performance criteria.
- Confirm that fire safety systems and associated fire safety sub-systems modifications to the original specifications are documented.
- Identify non-compliance issues and communicate effectively unresolved issues to clients and other stakeholders.
- Prepare clear and concise installation inspection and maintenance inspection reports including performance documentation and recommendations for approval, within agreed timelines.

Knowledge needed to achieve the performance criteria

Knowledge and understanding are essential to apply this unit in the workplace, to transfer the skills to other contexts, and to deal with unplanned events. The knowledge requirements embedded in performance include those listed below.

- Methods of identifying required information contained in standards, codes and legislation relevant to the inspection of fire safety systems.
- Operating principles of fire safety systems and associated fire safety sub-systems.
- Working knowledge of building elements, chemistry, fluid dynamics and electrical design.
- Procedures for determining if staged inspections are required for a specific fire safety system and associated fire safety sub-systems.
- Procedures for determining if local conditions and regulations impact on maintenance programs for a specific fire safety system and associated fire safety sub-systems.
- Procedures for checking that inspection and test data was validated against documented performance criteria.
- Methods of interpreting drafting standards and procedures, and extracting relevant information.
- Procedures for identifying and recording non-compliance issues, and the impact of local conditions on test protocols, maintenance and test programs.
- Methods of determining the interdependence (interface) of the fire safety system and associated fire safety sub-systems.

- Methods of confirming that the fire safety system and associated fire safety sub-systems are functional and perform to the specified design and installation standards, codes and legislation.
- Procedures for monitoring and accessing inspection and test data and confirming data against performance criteria.
- Methods and procedures for communicating unresolved non-compliance issues and the impact of local conditions on test protocols and maintenance programs to clients and other stakeholders.
- Procedures for confirming that modifications to the original fire safety system technical drawings and plans are documented.
- Procedures for preparing installation inspection reports and maintenance inspection reports for clients and other stakeholders.

Specific skills needed to achieve the performance criteria

To achieve the performance criteria, some complementary skills are required. These include the following.

- Recording and storing information.
- Recording non-compliance issues.
- Conducting and/or witnessing tests to verify power supplies are of sufficient capacity to power sub-systems in accordance with standards and legislative requirements.
- Conducting and/or witnessing tests to verify the interdependence (interface) of the fire safety system and associated fire safety sub-systems do perform to design, installation and maintenance standards and legislative requirements.
- Conducting and/or witnessing tests to verify operation of evacuation system performs to design, installation and maintenance standards, and legislative requirements.
- Conducting and/or witnessing tests to verify that performance maintenance tests are conducted in accordance with standards and legislative requirements.
- Using relevant testing equipment.
- Reviewing solutions developed to address non-compliance issues and the impact of local conditions on test protocols and testing programs.
- Active listening techniques.
- Effectively presenting information.
- Effective telephone techniques.
- Organising, collecting and collating information.
- Assessing test data.
- Basic word-processing skills.
- Language, literacy and numeracy skills necessary to process written and verbal information and perform basic calculations related to the job.

Other units of competency that could be assessed with this unit

This unit of competency can be assessed on its own or in conjunction with any practical unit.

Gaining evidence to assess this unit

For valid and reliable assessment of this unit, the competency should be demonstrated over a period of time and be observed by the assessor.

The competency is to be demonstrated in a range of situations, which may include customer/workplace interruptions and involvement in related activities normally experienced in the workplace.

Assessment of competency may be made through practical demonstration in the work environment or in a simulated work environment.

Key competency levels

There are a number of processes that are learnt throughout work and life that are required in all jobs. They are fundamental processes and generally transferable to other work functions. Some of these are covered by the key competencies, although others may be added. Information below highlights how these processes are applied in this unit of competency.

- | | | |
|------------------------------|---|---|
| 1 Perform the process | 2 Perform and administer the process | 3 Perform, administer and design the process |
|------------------------------|---|---|

How can communication of ideas and information be applied?	2	Prepare inspection reports, present and discuss results, and make recommendations about the outcomes of a fire safety system and associated fire safety sub-systems compliance inspection with clients and other stakeholders. Document and discuss with clients and other stakeholders non-compliance issues, the impact of local conditions on test protocols and test programs and unresolved non-compliance issues. Ensure that modifications to the original fire safety systems documentation are documented, included in the inspection report, and discussed with clients and other stakeholders.
How can information be collected, analysed and organised ?	2	Obtain relevant fire safety system documentation from a variety of sources. Analyse documentation to check for completeness, identify and record non-compliance issues and the impact of local conditions on test protocols and test programs, and ensure that testing is monitored against relevant standards, codes, legislative requirements and test protocols. Compare and analyse test results against the documented performance data. Make reference to relevant standards, codes and legislation in inspection reports against performance data generated by fire safety system and associated fire safety sub-systems.
How are activities planned and organised ?	1	Schedule fire safety system and associated fire safety sub-systems inspections to ensure that the client and other stakeholders are available, and staged inspections occur, if required.
How can teamwork be applied?	1	Apply teamwork to ensure that fire safety system and associated fire safety sub-systems testing is performed efficiently by appropriate stakeholders.
How can the use of mathematical ideas and techniques be applied?	2	Check testing calculations for accuracy and compare test results with documented performance data.
How can problem-solving skills be applied?	1	Discuss and listen to others involved in the non-compliance issues and the impact of local conditions on test protocols and test programs. Develop appropriate strategies to resolve non-compliance issues.

How can the use of technology be applied?	2 Access and follow up documentation relevant to the inspection of fire safety systems and associated fire safety sub-systems using appropriate technology such as personal computers, database systems and the Internet.
--	--

Range Statement

RANGE STATEMENT

The range statement links the required knowledge and organisational and technical requirements to the workplace context. It describes any contextual variables that may be used or encountered when applying the competency in work situations. It allows for different work practices and work and knowledge requirements as well as for differences between organisations and workplaces. The following variables are listed in alphabetical order and may be present for this particular unit.

Clients and other stakeholders may include:

- agents/agent representatives
- builders
- building architects
- building owners/occupiers
- building surveyors
- federal/state/territory/local government authorities
- fire and other regulatory authorities
- fire engineers
- fire safety system designers
- fire safety system installers
- industry associations
- maintenance providers
- other appropriate bodies or organisations
- project managers/site managers.

Competent personnel require experience that may include:

- awareness of the impact of local conditions on test protocols and test programs
- experience with necessary testing equipment
- hands-on experience
- interpretation of performance-based or prescriptive-based sub-system requirements
- relevant industry qualification(s)
- understanding of recording and reporting protocols
- working knowledge of Australian Standards, related to installation, maintenance and testing
- working knowledge of each fire safety sub-system.

Evacuation systems may include:

- automatic unlocking of exit doors e.g. secure environments
- building evacuation procedures

- illuminated exit signs.

Fire safety sub-systems may include:

- dry chemical powder systems
- emergency evacuation lighting systems
- emergency luminaries and exit signs
- emergency warning and intercommunication systems
- external wall-wetting sprinklers
- fire and smoke control systems
- fire brigade hydrant and water supply booster and feed connections
- fire brigade intervention plans
- fire detection and alarm systems
- fire fighting equipment
- fire hydrants and fire hose reels
- fire pump set systems
- fire resistant door-sets and roller shutters
- fire resistant sealing service penetrations and control joints
- fire resistant separating building elements
- fire sprinkler deluge systems
- fire sprinkler pre-action and dry pipe systems
- fire sprinkler systems - domestic, residential, commercial and industrial
- gaseous agent suppression systems
- high and medium velocity water spray systems
- high expansion foam systems
- low expansion foam systems
- emergency warning and intercommunication system
- portable fire extinguishers
- smoke and heat venting systems
- water mist systems
- wet chemical systems.

Local conditions may include:

- occupier/owner imposed restrictions
- site constraints
- trade union imposed restrictions.

Relevant standards and maintenance protocols may include:

- Australian Communications Authority - cabling provider rules
- Australian Dangerous Goods Code
- Australian Standards
- Building Code of Australia
- building surveyor requirements
- client and other stakeholder requirements
- dispensations from fire and other regulatory authorities
- enterprise operating procedures
- federal/state/territory/local government authority legislation and regulations, including:
 - state or territory building legislation and regulations
 - state or territory environmental regulations

- state or territory fire service legislation and regulations
- industry codes of practice
- international fire system and equipment standards
- plumbing codes
- product manufacturer's technical manuals and data sheets
- updates and interpretations of the Building Code of Australia
- workplace codes of practice.

Relevant standards, codes and legislation may include:

- Australian Communications Authority - cabling provider rules
- Australian Dangerous Goods Code
- Australian Standards
- Building Code of Australia
- building surveyor requirements
- client and other stakeholder requirements
- dispensations from fire and other regulatory authorities
- enterprise operating procedures
- federal/state/territory/local government authority legislation and regulations, including:
 - state or territory building legislation and regulations
 - state or territory environmental regulations
 - state or territory fire service legislation and regulations
- industry codes of practice
- international fire system and equipment standards
- plumbing codes
- product manufacturer's technical manuals and data sheets
- updates and interpretations of the Building Code of Australia
- workplace codes of practice.

Specification requirements may include:

- fire safety system design drawings
- fire system Australian Standards
- other fire safety system design documentation
- project specifications.

Test protocols may include:

- fire safety system design drawings
- other fire safety system design documentation
- standards and codes tested to and/or against.
-

Unit Sector(s)

Not Applicable