



Australian Government

Department of Education, Employment and Workplace Relations

CPCSFS5014A Conduct annual fire systems certification inspections

Release: 1

CPCSFS5014A Conduct annual fire systems certification inspections

Modification History

Not Applicable

Unit Descriptor

Unit descriptor	This unit of competency specifies the outcomes required to assess all types of fire systems in all types of buildings to ensure that the systems comply with applicable legislation and will perform in the event of a fire. Licensing, legislative, regulatory or certification requirements may apply to this unit and so the varying state or territory requirements should be confirmed with the relevant body.
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Application of the Unit

Application of the unit	This unit of competency supports the role of annual certifiers of fire systems with responsibility for inspecting existing fire systems; assessing their compliance with the relevant applicable legislation, codes and standards; and advising whether they continue to perform to current fire safety standards.
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Licensing/Regulatory Information

Refer to Unit Descriptor

Pre-Requisites

Prerequisite units	Nil
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Employability Skills Information

Employability skills	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.
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Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Prepare for annual fire systems certification inspections.	1.1. Annual fire systems inspections are scheduled in a timely manner and in consultation with relevant stakeholders, as required. 1.2. Current building plans are obtained and reviewed and modifications made to the building since the last inspection are identified and noted. 1.3. Information regarding the current and historical legislation, codes and standards applicable to fire systems is reviewed and used to inform inspection planning. 1.4. Information regarding the validity of fire systems' compliance documentation is reviewed and used to inform inspection planning. 1.5. Fire systems certification inspections are planned to ensure efficient and comprehensive implementation.
2. Conduct annual fire systems certification inspections.	2.1. Fire systems are inspected concurrently in each area of the building in accordance with organisational and regulatory requirements. 2.2. Each aspect of each fire system is assessed for compliance with the applicable current and historical legislation, codes and standards and findings are documented. 2.3. The current performance level of each fire system is assessed and recorded. 2.4. Advice is sought from relevant professional personnel, as required and according to workplace and regulatory procedures.
3. Produce annual fire systems certification reports and communicate findings.	3.1. The findings of inspections are analysed and works required to address shortfalls in fire systems' compliance or performance are identified and recorded according to regulatory requirements. 3.2. Reports and certificates are produced and processed according to regulatory requirements. 3.3. The findings of the report are communicated to relevant stakeholders according to regulatory requirements, and works required to rectify fire systems are carefully explained.

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

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

Required skills

- operating computer software packages and systems, including:
 - word processing
 - spreadsheet
 - email
 - internet
 - proprietary project management software
- language and literacy skills for:
 - listening to and communicating clearly with stakeholders, colleagues and contractors
 - explaining the gravity of fire systems inspection findings to owner
 - researching, accessing, reading, interpreting and applying relevant current and historical legislation, codes and standards
 - letter writing
 - updating knowledge of products, software systems and technology
 - reading and interpreting drawings, plans and specifications, including:
 - architectural
 - structural
 - fire systems design
 - block plans
 - tactical fire plans
 - report writing
- developing constructive and cooperative working relationships with stakeholders, colleagues and clients
- negotiation and conflict management
- organising own work, including creating personal systems and checklists for planning, managing and checking work
- inspecting multiple fire systems (with different applicable standards) concurrently, including:
 - attention to detail
 - visual acuity to perceive, for example that the distance between sprinklers is too great
- maintaining a professional detached authority

Required knowledge

- auditing processes and protocols

REQUIRED SKILLS AND KNOWLEDGE

- fire science, including:
 - fire behaviour and dynamics
 - impact of fire on structures and materials
 - products of combustion
 - fire control strategies
 - fire retardants
 - fire detection technologies
 - fire suppression technologies
 - fire containment
- fire engineering principles, including:
 - engineered solutions
 - innovative fire systems
 - fire modelling
- computer software functions and operation, including:
 - word processing
 - spreadsheet
 - email
 - internet
 - proprietary project management software
- relevant current and historical legislation, codes and standards, including:
 - building Acts
 - building regulations
 - infrastructure supply regulations
 - the Building Code of Australia
 - Australian standards for fire systems
 - international standards for fire systems
 - other fire system standards commonly required by building insurers
- protection requirements for different buildings
- fire systems' technology and components, including:
 - water-based systems, including:
 - wet pipe sprinkler systems
 - deluge and drencher systems
 - dry pipe sprinkler systems
 - pre-action sprinkler systems
 - early suppression fast response (ESFR)
 - hydrants, hose reels and monitors
 - water supply tanks
 - fire pump sets

REQUIRED SKILLS AND KNOWLEDGE

- detection and warning systems, including:
 - emergency warning and intercommunications systems (EWIS)
 - fire detection and alarm systems
 - smoke control systems
 - emergency lighting systems
 - special hazard fire systems, including:
 - foam systems (low expansion, medium expansion and high expansion)
 - gaseous agent systems (carbon dioxide, inert gas and halocarbon gases)
 - water spray systems (deluge, medium/high velocity water spray and high speed deluge)
 - chemical powder systems
 - wet chemical systems
- characteristics and limitations of products and materials used in fire systems and issues relating to material compatibility
- interconnection of fire systems, including:
 - cause and effect matrix
 - interface with other services
- passive fire safety elements:
 - identification of passive elements
 - requirements for safeguarding the integrity of passive fire element performance where penetrations have been made
- basic principles of structural engineering
- characteristics of building materials
- construction industry terminology
- sustainability requirements and ratings, including:
 - energy conservation
 - water conservation
- human psychology, especially fire avoidance behaviour
- contractual processes

Evidence Guide**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.

EVIDENCE GUIDE	
Overview of assessment	This unit of competency could be assessed in the workplace or a close simulation of the workplace environment, provided that the simulated or project-based assessment fully replicates workplace conditions, materials, activities, responsibilities and procedures. This unit could be assessed as an activity involving preparing for, conducting and reporting on annual fire systems inspections for a range of types of fire systems in a variety of buildings with different construction and modification histories.
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 within this unit. In particular the person should demonstrate: • an understanding of the range of relevant current and historical legislation, codes, standards and regulatory requirements for the certification of existing fire systems • an understanding of the function and operation of the full range of fire systems, including water-based fire systems, detection and warning systems and special hazard fire systems used in a wide variety of types of buildings, including: • low-rise buildings • medium-rise buildings • high-rise buildings (over 25 metres) • buildings over 45 metres in height • the ability to apply the relevant current and historical compliance requirements to annual inspections of a range of fire systems installed and modified at different dates, in a variety of types of buildings • the visual acuity required to perceive anomalies in fire systems' compliance arising from building modifications, repairs or adjustments; or a lack of fire systems maintenance • the ability to report and communicate findings effectively to ensure that the

EVIDENCE GUIDE	
	gravity of non-compliance of fire systems is understood and works required to remedy the situation may be expedited.
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: • documents, drawings, plans and specifications • copies of codes, standards, legislation and regulatory requirements • access to information and communications technology - hardware and software.
Method of assessment	Assessment 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.
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.

Range Statement

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.

<i>Fire systems</i> may include:	• water-based systems, including: • wet pipe sprinkler systems • deluge and drencher systems • dry pipe sprinkler systems • pre-action sprinkler systems • early suppression fast response (ESFR) • hydrants, hose reels and monitors • water supply tanks • fire pump sets • detection and warning systems, including: • emergency warning and intercommunications systems (EWIS) • fire detection and alarm systems • smoke control systems • emergency lighting systems • special hazard fire systems, including: • foam systems (low expansion, medium expansion and high expansion) • gaseous agent systems (carbon dioxide, inert gas and halocarbon gases) • water spray systems (deluge, medium/high velocity water spray and high speed deluge) • chemical systems, including: • powder • wet chemical.
<i>Relevant stakeholders</i> may include:	• owners • agents • occupants • local authority.
<i>Current and historical legislation, codes and standards</i>	• current, or earlier versions of: • the Building Code of Australia

RANGE STATEMENT	
may include:	• relevant Australian standards for fire systems • relevant international standards for fire systems • codes and standards stipulated by the regulatory authority or building insurer • obsolete legislation, regulations, codes and standards.
Compliance documentation may include:	• fire safety schedules • inspection and testing logbooks • maintenance, repair and replacement documentation.
Relevant professional personnel may include:	• fire engineer • fire brigade personnel • building surveyor • persons with regulatory authority • architect • structural engineer • fire systems' designer.

Unit Sector(s)

Unit sector	Fire systems design
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Co-requisite units

Co-requisite units	Nil
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Competency field

Competency field	
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