



Australian Government

Assessment Requirements for CPCSF5002 Research and interpret detailed fire systems design project requirements

Release: 1

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Modification History

Release 1 This version first released with CPC Construction, Plumbing and Services Training Package Release 5.0.

Supersedes and is equivalent to CPCSF5002A Research and interpret detailed fire systems design project requirements. Updated to meet the Standards for Training Packages 2012.

Performance Evidence

To demonstrate competency, a candidate must meet the performance criteria of this unit by:

- establishing the detailed design requirements of fire systems design projects, including discretionary client requirements for four different types of buildings, including:
 - commercial building
 - factory
 - residential nursing home
 - high-rise building.

Knowledge Evidence

To be competent in this unit, a candidate must demonstrate knowledge of:

- workplace design tools and processes
- drawings, plans and schedules for the building project:
 - architectural
 - structural
 - mechanical
 - hydraulic
 - electrical
 - layout
 - section
 - detail
 - project schedule or construction program
 - design brief
 - design specifications
- level of accuracy required in detailed design drawings

- compliance requirements for fire systems design projects in different locations
- aesthetic requirements relating to the location of fire system components
- relevant current legislation, codes and standards:
 - building Acts
 - building regulations
 - infrastructure supply regulations
 - the Building Code of Australia (BCA)
 - the Plumbing Code of Australia
 - Australian standards for fire systems
 - National Construction Code (NCC)
 - jurisdictional authorities in addition to the BCA and NCC
 - international standards for fire systems
- regulatory requirements, systems and processes:
 - mandatory requirements
 - design approval
 - fire brigade requirements
 - certification of installation
 - infrastructure supply regulations
- protection requirements for different buildings
- fire systems' technology and components:
 - water-based systems:
 - 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
 - high pressure water mist systems
 - gas suppression systems
 - detection and warning systems:
 - occupant warning systems
 - emergency warning and intercommunications systems (EWIS)
 - fire detection and alarm systems
 - smoke control systems
- purpose and operation of fire systems:
 - layout
 - system operation
 - performance requirements

- maintenance standards
- system activation and operation
- passive fire safety elements:
 - identification of passive elements
 - impact of fire systems design on passive elements
 - specifications required to safeguard integrity of passive fire element performance where penetrations are necessitated by the fire systems design
- characteristics and limitations of products and materials used in fire systems and issues relating to material compatibility
- interconnection of fire systems:
 - cause and effect matrix
 - interface with other services
- construction industry terminology
- roles and responsibilities of relevant building project personnel:
 - builders
 - consultants
 - trades
 - commissioning personnel
- on-site issues that can arise during the construction phase and impose changes to the designs of fire systems and other services
- installation methods:
 - access requirements
 - work health and safety (WHS) requirements
- fluid mechanics and hydraulics relating to
 - water supply
 - pressure
 - pump selection
 - tank selection
 - pressure vessels
 - pipe range
- sustainability requirements and ratings:
 - energy conservation
 - water conservation
- types of fire systems for projects and classifications, including:
 - low-rise buildings
 - processing building applications
 - warehouse buildings under 13.7 m high
 - warehouse buildings over 13.7 m high
 - medium-rise buildings
 - high-rise buildings (over 25 metres)

- buildings over 50 metres in height
- types of buildings and situations:
 - different types of buildings:
 - residential
 - commercial
 - industrial
 - warehouse
 - mixed classification
 - buildings in different locations:
 - local
 - involving more than one state or territory
 - classifications of buildings in the BCA:
 - occupancy classes
 - multiple classifications
 - parts with more than one classification
 - fire hazard properties of materials and smoke growth rate
 - classifications of buildings specified in relevant Australian or international standards
 - classifications of buildings relating to standards or codes applied by building insurers.

Assessment Conditions

Assessors must meet the requirements for assessors contained in the Standards for Registered Training Organisations.

This unit must be assessed in the workplace or a close simulation using realistic workplace conditions, materials, activities, responsibilities, procedures, safety requirements and environmental considerations.

Links

Companion volumes to this training package are available at the VETNet website - <https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=7e15fa6a-68b8-4097-b099-030a5569b1ad>