



Australian Government

Assessment Requirements for CPCSF5013

Support commissioning processes and finalise fire systems design projects

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 CPCSF5013A Support commissioning processes and finalise fire systems design projects. Updated to meet the Standards for Training Packages 2012.

Performance Evidence

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

- preparing four final fire systems design project documentation, including drawings, specifications and commissioning support documentation, including for a:
 - 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, reports and specifications
- level of accuracy required in detailed design drawings
- naming conventions for design drawings and drawing register
- relevant regulatory approval and fire systems design certification processes
- relevant current legislation, codes and standards:
 - building Acts
 - building regulations
 - infrastructure supply regulations
 - the Building Code of Australia (BCA)
 - National Construction Code (NCC)
 - Australian standards for fire systems
 - international standards for fire systems
 - jurisdictional authorities in addition to the BCA and NCC
 - other fire system standards commonly required by building insurers

- protection requirements for different buildings including low-rise, medium-rise, high-rise (over 25 metres) and buildings over 45 metres in height
- 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)
 - water spray systems
 - water mist systems
 - gaseous suppression systems
 - wet chemical suppression systems
 - foam suppression systems
 - hydrants, hose reels and monitors
 - water supply tanks
 - fire pump sets
 - detection and warning systems:
 - occupant warning systems
 - emergency warning and intercommunications systems (EWIS)
 - fire detection and alarm systems
 - smoke control systems
 - emergency lighting systems
- purpose and operation of fire systems:
 - layout
 - special products and hazards
 - system operation
 - performance requirements:
 - for water-based systems:
 - speed of response
 - time taken to reach full-flow conditions
 - area of coverage
 - nozzle locations
 - droplet profile and characteristics
 - duration of response
 - for detection and warning systems:
 - correct sensors
 - sensitivity to fire size
 - speed of detection and response
 - fire location coverage

- 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
- maintenance procedures:
 - site-specific maintenance instructions
 - manufacturer's specific maintenance instructions
 - local government regulations
 - Australian standards, such as:
 - AS 1851 Routine service of fire protection systems and equipment
 - safety data sheets (SDS).
- interconnection of fire systems:
 - cause and effect matrix
 - interface with other services
- instruments used in commissioning and measuring fire system performance:
 - commissioning procedures and specifications:
 - procedures listed in Australian standards, such as:
 - AS 2118.1 Automatic fire sprinkler systems - General Systems
 - AS 2118.4 Automatic fire sprinkler systems - Sprinkler protection for accommodation buildings not exceeding for storeys in height
 - AS 2118.6 Automatic fire sprinkler systems - Combined sprinkler and hydrant systems in multi-storey buildings
 - AS 1670.1 Fire, detection, warning, control and intercom systems - System design, installation and commissioning - Fire
 - AS 1670.4 Fire, detection, warning, control and intercom systems - System design, installation and commissioning - Emergency warning and intercom systems
 - AS 2419.1 Fire hydrant installations - System design, installation and commissioning
 - AS 2441 Installation of fire hose reels
 - AS 2941 Fixed fire protection installations - Pumpset Systems
 - AS ISO 14520.1 Gaseous fire extinguishing system - Physical properties and system design - General requirements
 - U.S. National Fire Protection Association (NFPA) codes
 - factory mutual data sheets
 - manufacturer recommendations

- construction industry terminology
- roles and responsibilities of relevant building project personnel:
 - architect
 - lead contractor
 - structural engineer
 - mechanical engineer
 - hydraulic engineer
 - electrical engineer
 - civil engineers
 - fire engineers
 - building(private) certifier or surveyor
- contractual processes
- signage:
 - technical design data, including systems performance and layout on a block plan
 - pressure switch setting plaque
 - interface cause and effect drawing
 - operating instructions
 - manufacturer's technical plates or labels
 - signs in the pump room for water-based system:
 - system pressure
 - town mains pressure
 - pump cut-in pressure
 - pressure gauge schedule
 - block plans
 - visual and audible alarms for gaseous suppression systems, including:
 - strobes lights
 - speakers and horns
 - system interface matrix
 - block plans
 - signage for detection and warning systems:
 - system interface matrix
 - block plans
 - device lists.

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>