Unit of Competency CPCSFS5011 Provide design documentation and review and support fire system installation processes

Application

This unit of competency specifies the outcomes required to develop detailed drawings and notes for the fire systems installation team from approved detailed fire systems design drawings. The unit also covers the outcomes required to assist and support the installation team when changes to detailed designs may be required owing to contingencies encountered on-site.

This unit of competency supports the role of fire systems designers whose work involves the preparation of detailed documentation to support the installation of fire systems and the provision of troubleshooting advice and drawings for solutions to on-site issues.

In some jurisdictions, this unit of competency may form part of accreditation, licensing, legislative, regulatory or certification requirements.

Prerequisite Unit

Nil.

Elements and Performance Criteria

1. Produce installation drawings and documentation.	1.1	Check approved detailed design drawings of fire systems to ensure that installation implications of required changes have been addressed.
	1.2	Use approved detailed design drawings of fire systems to create installation drawings.
	1.3	Use detailed design specifications of fire systems to notate the installation drawings with the location of specific components of the fire system.
2. Review drawings prior to installation.	2.1	Monitor and record ongoing changes to detailed structural or other services' design drawings regularly.
	2.2	Consider the impact of structural and other services design changes on fire systems design and installation and propose and negotiate appropriate solutions with relevant project team members, as required.
	2.3	Amend fire systems installation drawings and documentation to incorporate accepted solutions according to workplace and project procedures.
3. Resolve on-site installation problems.	3.1	Record, prioritise and consider on-site installation issues in line with project timeframes.
	3.2	Propose and negotiate appropriate solutions with relevant project team members, as required.
	3.3	Amend fire systems installation drawings and documentation to incorporate accepted solutions as required.
	3.4	Communicate solutions to on-site fire system installation team members and

	supply amended documentation according to workplace and project procedures.

Foundation skills

Foundation skills essential to performance are explicit in the performance criteria of this unit of competency.

Unit Mapping Information

Supersedes and is equivalent to CPCSFS5011A Provide design documentation and review and support fire system installation processes.

Links

Companion Volume Implementation Guide:
https://vetnet.education.gov.au/Pages/TrainingDocs.aspx?q=7e15fa6a-68b8-4097-b099-030a5569b1ad

Assessment Requirements for CPCSFS5011
Provide design documentation and review and support fire system installation processes

Performance Evidence

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

- preparing accurate documentation and provision of ongoing support for the installation of fire systems in four projects and buildings, 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:

- reading and interpreting drawings, plans, reports and specifications
- file sharing and storage processes
- communication processes
- workplace design tools and processes
- level of accuracy required in detailed design drawings
- naming conventions for design drawings and drawing register
- computer software functions and operation:
    - word processing
    - spreadsheet
    - email
    - internet
    - proprietary project management software
- 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 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
- 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)
        - gaseous suppression systems
        - water spray systems
        - water mist 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
    - maintenance standards
    - system activation and operation
- characteristics and limitations of products and materials used in fire systems and issues relating to material compatibility
- 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
- basic principles of structural engineering
- characteristics of building materials
- construction industry terminology
- roles and responsibilities of relevant building project personnel:
    - architect

    - lead contractor
    - mechanical engineer
    - hydraulic engineer
    - electrical engineer
- on-site issues, including technical, that can arise during the construction phase and impose changes to the designs of fire systems and other services:
    - installation issues:
        - discrepancies between designed and actual structure
        - discrepancies between designed and actual systems for other services:
            - mechanical
            - hydraulic
            - electrical
        - errors in supplied materials and components
        - scheduling and sequencing changes
        - problems with access to installation locations of fire system components
    - installation implications:
        - on-site work health and safety (WHS) risks
        - manual handling
        - confined spaces
        - working at height
- installation methods:
    - access requirements:
        - height of pipe
        - length of pipe
        - weight of materials
        - distance from beams
        - distance from walls
    - WHS requirements
- sustainability requirements and ratings:
    - energy conservation
    - water conservation
- mathematic principles, equations and calculation methods relevant to the system type.

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 Volume Implementation Guide:
https://vetnet.education.gov.au/Pages/TrainingDocs.aspx?q=7e15fa6a-68b8-4097-b099-030a5569b1ad