Unit of Competency CPCSFS5001 Define scope and hazard level of fire systems design projects

Application

This unit specifies the skills and knowledge required to interpret briefs and specifications for fire systems design projects to define the scope and hazard level of projects.

This unit of competency supports the role of fire system designers and design consultants who need to determine the nature and purpose of a fire systems design concept.

The role may involve interaction with architects, builders, suppliers, clients and relevant planning authorities and requires a sound understanding of applicable legislation, standards and codes, including the National Construction Code (NCC).

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. Interpret fire systems design concept, brief or specification.	1.1. Gather and interpret design concepts and brief, specifications and recommendations for fire systems design project. 1.2. Determine and outline the nature, purpose and location of proposed fire systems.
2. Establish building classifications and hazard levels for fire systems design project.	2.1. Determine size and type of buildings from initial project documentation. 2.2. Determine function and occupancy of buildings from initial project documentation. 2.3. Obtain clarification of specific building details from client or other relevant persons within project timelines. 2.4. Research and confirm building classifications and hazard levels according to relevant codes and standards.
3. Determine and verify the applicable legislation, codes and standards.	3.1. Determine and verify regulatory requirements applicable to the fire systems design project. 3.2. Determine and confirm the codes and standards applicable to the location and classification of buildings included in fire systems design project. 3.3. Determine and verify insurance requirements impacting on applicable codes and standards for fire systems project.

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 CPCSFS5001A Define scope and hazard level of fire systems design projects.

Links

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

Assessment requirements for CPCSFS5001 Define scope and hazard level of fire systems design projects

Performance Evidence

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

- interpreting design concepts, briefs and specifications
- establishing hazard levels and building classifications
- identifying relevant localised legislation, codes and standards for each of the following project types:
    - low-rise building
    - medium-rise building
    - high-rise building (over 25 metres)
    - building over 50 metres in height
    - building classifications in the National Construction Code (NCC)
- selecting and applying one of the following locations to the each of the above project types ensuring all locations have been used at least once:
    - local
    - involving more than one state or territory
    - international.

Knowledge Evidence

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

- fire engineering principles:
    - innovative fire systems
    - relevant computer-aided design (CAD) programs such as:
        - archi CAD
        - Revit
- relevant current legislation, codes and standards:
    - building acts
    - building regulations
    - infrastructure supply regulations
    - the Building Code of Australia (BCA)
    - NCC
    - jurisdictional authorities in addition to the BCA and NCC
    - Australian standards for fire systems
    - international standards for fire systems
    - other fire systems standards commonly required by building insurers

- 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
- detection and 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
- different types of buildings for fire systems design projects:
    - residential
    - commercial
    - industrial
    - mixed classification
- building classifications:
    - classifications in the BCA such as:
        - occupancy classes
        - multiple classifications
        - parts with more than one classification
    - classifications specified in relevant Australian or international standards

    - classifications relating to standards or codes applied by building insurers
- how to access relevant information, including codes and standards
- relevant work health and safety (WHS) requirements to define scope and hazard level of fire systems design projects.

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