



Australian Government

Assessment Requirements for CPCSF8003 Develop and submit tenders for fire systems design solutions

Release: 1

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Modification History

Release 1.

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

Replaces superseded equivalent CPCSF7003A Develop and submit tenders for fire systems design solutions.

Performance Evidence

A person demonstrating competency in this unit must satisfy all of the elements, performance criteria and foundation skills of this unit. The person must research, plan, cost and tender for the design, fabrication and installation of efficient, effective and compliant fire detection and suppression systems for two different fire systems design projects.

In particular, for each project the person must:

- accurately calculate:
 - fire system capacities and performance
 - costs of design, fabrication and installation of fire systems, including overhead costs
- read and interpret a range of design documents, including concept briefs, design briefs, drawings, plans and specifications
- apply requirements of legislation, codes, standards, regulatory and insurance requirements relevant to fire systems design projects, including Australian and United States National Fire Protection Association (NFPA) standards when developing tenders for the design, fabrication and installation of fire systems
- research appropriate fire detection and suppression systems
- prepare tender or bid documentation that meets the bid specification requirements
- build relationships with potential clients and suppliers, and conduct business negotiations.

Knowledge Evidence

A person demonstrating competency in this unit must be able to demonstrate knowledge of:

- characteristics and limitations of products and materials used in fire systems and issues relating to material capability
- fire detection and suppression systems, components and technologies and costs associated with their design, purchase or fabrication, and installation
- fire systems' technology and components:
 - water-based systems
 - detection and warning systems
 - special hazard fire systems

- chemical systems
- industry networks and mechanisms for expanding and updating knowledge of fire systems and technologies
- interconnection of fire systems:
 - cause and effect matrix
 - interface with other services
- legislation, codes, standards, regulatory and insurance requirements that apply to each of the two fire systems design projects specified in the performance evidence, including Australian and NFPA standards
- mathematical principles, equations and calculation methods to inform the development of tender proposals for fire systems design solutions, including:
 - taking accurate measurements
 - financial calculations:
 - labour costs
 - overheads
 - profit margins
 - water-based system calculations:
 - dimensions
 - motor output
 - pipe lengths
 - piping friction loss
 - pump capacity
 - electrical system calculations:
 - battery back-up
 - battery capacity
 - dimensions
 - power supplies
 - voltage drops
- 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
- range of design documents, including concept briefs, design briefs, drawings, plans and specifications and the meaning of symbols, notations and technical language used
- tendering, bidding and contractual processes, including interpreting:
 - bid requirements
 - contractual requirements.

Assessment Conditions

Assessment must be conducted in the workplace or a close simulation of the workplace.

Suitable assessment of performance would require:

- equipment:
 - computer with internet and email access
 - software: word processing and spreadsheet functionality; and proprietary estimating
- materials:
 - access to current legislation, codes and standards relevant to the jurisdiction in which the work is taking place, including:
 - building Acts and regulations
 - infrastructure supply regulations
 - Australian standards for fire systems
 - National Construction Code
 - other fire system standards commonly required by building insurers, including NFPA standards
 - organisational policies and procedures:
 - strategic planning policies
 - legal, financial and accounting procedures relating to response to tenders
 - project documentation for two fire systems design projects, including design briefs, design drawings, specifications and product information.

Assessor requirements

Assessors must satisfy the assessor requirements in the Standards for Registered Training Organisations (RTOs) current at the time of assessment.

Links

Companion Volume implementation guides are found in VETNet -

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