SFSMFP3

Design systems for mechanical fire protection

Overview

This standard is aimed at those who design mechanical fire protection systems, and sets out the skills, knowledge and understanding for you to design systems by liaising with clients, taking account of particular site characteristics, calculating costs and complying with legislation and regulatory requirements.

Performance criteria

You must be able to:

P1. Liaise with the client to gather information about their requirements for the mechanical fire protection system

P2. establish who is the designated responsible person(s) to verify or approve the design calculations

P3. establish what existing and planned services are in place on site

P4. maintain the security and confidentiality of information relating to the client's requirements

P5. record any factors relating to the site environment that may have an impact on the proposed mechanical fire protection system options

P6. check that you have sufficient information through client consultation to design and specify mechanical fire protection systems that meet the client requirements, reverting to the client if you conclude there is insufficient information.

P7. produce a design, based on the client's requirements and which meets the required performance data

P8. produce system designs and specifications that optimise costs and that are appropriate to installation sites, adhering to current relevant legislation and regulations, industry standard guidelines, your organisation's quality management procedures and health and safety codes of practice

P9. check the onward signals to integrated systems can be verified

P10. provide designs and specifications in agreed formats, within required timescales and to the appropriate person

P11. confirm that the design and specifications align with the existing and planned services on site

P12. obtain or produce approvals and certification required for systems, as appropriate

P13. follow relevant quality management procedures and processes when designing systems

P14. produce certification information and provide it to the client

P15. verify with the designated responsible person(s) that the designs are suitable and sufficient

Knowledge and understanding

You need to know and understand:

K1. how to determine client requirements when preparing designs for approval and why it is important to do this

K2. the research methods to employ when looking for information that will satisfy client requirements

K3. how to make accurate calculations, including hydraulic calculations

K4. factors that may impact on the proposed systems, how these should be recorded and why it is important to do so

K5. your organisation's policies and procedures for maintaining the security and confidentiality of information and why it is important to do so

K6. the importance of having sufficient valid, accurate and up to date source information

K7. the limits, constraints and capabilities of other organisations that may be involved in the installation and operation of the system

K8. the performance, limitations and availability of systems, materials and components that you could specify in your designs

K9. formats of and information required for designs and specifications

K10. current relevant legislation and regulations; industry standard guidelines; your organisation's quality management procedures and health and safety codes of practice

K11. the relationship between types of fire and appropriate extinguishing mediums

K12. the characteristics of different environments to which the system is being provided

K13. the requirements of different stakeholders

K14. relevant quality management procedures and processes

Glossary

mechanical fire protection system: a non-electrical device used for fire protection such as, sprinklers; gas systems; water mist and powder; foam and chemical systems; dry and wet risers; fire mains

system options: any information supplied to the client informing them of the different types of mechanical fire protection system that are available to meet their requirements

designated responsible person: could include, but not limited to, duty holder; building management; fire marshal/warden; maintenance engineer

stakeholders: could include: local fire authority; water undertaker; building control; insurers; government departments; environmental agencies; third party certification bodies

certification information: design certificate; design specification

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