

Commission building services engineering installations

Overview

This standard is for those who manage and implement the commissioning of building services engineering installations.

The individual undertaking this work must be able to identify and address the customer's requirements for building services engineering product configuration. They must be able to commission and transfer control of the installation to the customer, confirming the customer is satisfied with the work that was undertaken. They must also be able to plan the resources required for the commissioning processes and complete records of the completed commissioning procedures – including any variations to the project specification.

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Performance criteria

You must be able to:

1. access current information about the environmental technology system and equipment as it applies to the work activity from relevant:
 - sources of information
 - documentation
2. identify the client's requirements for the configuration of the building services engineering products, including any environmental technologies
3. plan to configure building services engineering products
4. determine and obtain the resources required to undertake the configuration
5. check that configuration methods and procedures are implemented correctly and in accordance with client requirements
6. identify and resolve any problems with the configuration
7. confirm before work commences that the work location and work area can be accessed safely and has been checked for the risk to other personnel on the site, and take the required action if a risk is identified
8. verify that job information and documentation is current and relevant and that the plant, instruments, access equipment and tools are fit for purpose for the job
9. determine and obtain the resources required to undertake the commissioning
10. confirm that the commissioning process is implemented correctly
11. identify and resolve any identified issues with the products and/or commissioning
12. assess the results of the commissioning process against the building services engineering installation project specification
13. confirm that the results of the commissioning process are recorded in the required information systems and passed to relevant others
14. confirm that the building services engineering installation is ready for transfer and complies with relevant legal and regulatory requirements, industry standards and the

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project specification

15. provide relevant information on the building services engineering products to relevant others
16. identify and record any aspects of the building services engineering installation that vary from the project specification and requirements
17. obtain acceptance from the client of the building services engineering products and installation according to the agreed transfer procedures
18. confirm that all relevant documentation is correctly completed and recorded in the relevant information systems in accordance with approved procedures
19. complete and safely store all relevant documentation in accordance with organisational requirements
20. deal promptly and effectively with any problems within the scope and limitations of your own competence, responsibilities and accountability and report those which cannot be solved
21. implement organisational procedures for the safe transport and/or disposal of waste materials, substances and liquids in accordance with suppliers' and manufacturers' instructions and relevant legislation

Knowledge and understanding

You need to know and understand:

1. the current legislation, guidelines, policies, procedures and protocols which are relevant to your work practice and to which you must adhere whose policies, procedures and protocols
2. the scope and limitations of your own competence, responsibilities and accountability as it applies to your job role
3. the requirements for the configuration of building services engineering products including environmental technologies
4. the configuration methods and procedures, which manage hazards and risks
5. the resources required to undertake configuration
6. the types of issues which occur with configuration and solutions to configuration issues
7. the organisational methods and systems to record configuration information
8. the methods and procedures for commissioning building services engineering installations which comply with client, relevant legal and regulatory requirements, industry standards and a project specification
9. the conditions that are suitable to implement commissioning
10. the resources required to undertake commissioning
11. the types of issues which occur with commissioning and solutions to commissioning issues
12. the different methods used to assess the results of commissioning to against a building services engineering project specification
13. the methods and systems to record results of commissioning and associated information and pass this information to relevant others
14. the organisational procedures for transferring control of building services engineering installations which obtain acceptance of the installations

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15. the organisational procedures to confirm that building services engineering installations comply with relevant legal and regulatory requirements and industry standards
16. the relevant information to provide to relevant others about building services engineering installations
17. the aspects of building services engineering installations that vary from agreed specifications and requirements is this
18. the relevant documentation and how to confirm it is correctly completed and recorded in the relevant information system(s)
19. the organisational procedures for:
 - communicating the use, safety and control of the system to relevant others
 - confirming with relevant others those necessary variations to the planned programme of work that may have the potential to introduce a hazard and/or impact on the installation work to be undertaken
 - confirming with relevant others the correct actions to be taken to confirm that any variations to the planned programme of work will not introduce a hazard and have minimum impact on the installation work be undertaken
 - obtaining customer/client acceptance of the installed system and its associated equipment, accessories and components post work activity and how to deal with cases where acceptance is not received
 - the safe transport and/or disposal of any waste material, substances and liquids in accordance with suppliers' and manufacturers' instructions and legislation
20. how to complete and safely store all relevant documentation in accordance with organisational requirements

Scope/range

Client

- architect
- contract manager
- main/sub-contractor
- consultant(s)
- purchaser of installation and/or maintenance services or their representative
- other trades and services at the work site

Resources

- labour
- plant and equipment
- finance
- IT
- materials and other consumables* *

Requirements

- project (e.g. contractual, specification, brief, cost, purpose, location, schedule)
- site (e.g. access, site conditions, occupancy)
- social (e.g. user, client, near neighbours)
- legal and good practice (e.g. environmental, health and safety, management of hazards and risks, codes of practice, legal and regulatory constraints, protection of property, consents for listed buildings and conservation areas, specified technical performance standards)
- business
- whole life (hand-over, durability, fault testing, maintenance)

Environmental Technology Systems

- biomass
- grey water and rain water
- heat pumps
 - air source
 - ground source
 - water source
- micro combined heat and power (micro-CHP/ domestic CHP)
- micro hydro
- micro-wind turbine
- photovoltaic thermal (PVT)
- solar photo-voltaic
- solar thermal

Procedures

- information management
- project management
- risk management
- implementing and monitoring health & safety requirements
- implementing and monitoring environmental requirements
- communication with relevant others
- implementing and monitoring requirements related to listed buildings or conservation areas

Information

- technical (design documentation, plans, installation specifications, equipment)
- specifications, manufacturers' data, manufacturer's instructions, tender documents, surveys, BIM data)
- functional (user instructions, including the circumstances when professional expertise should be called upon)
- client information (provided by the client including the invitation to tender, any drawings and specifications)
- contractual
- statutory consents
- health and safety
- instructions (verbal, written)

Relevant others

- client representatives
- customers/clients
- members of the public
- other contractors/trades
- service providers
- site/contract manager
- supervisors
- work colleagues

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Developed by	BSE Skills
Version Number	1
Date Approved	30 Mar 2022
Indicative Review Date	30 Mar 2027
Validity	Current
Status	Original
Originating Organisation	SummitSkills
Original URN	SUMPM15
Relevant Occupations	Building Services Engineering Technician
Suite	Environmental Technology Systems
Keywords	Commission; building; services; engineering; installations