

COSBEDMO19 - SQA Unit Code HG4F 04

Manage project completion and handover in built environment design management



Overview

This unit applies to designers who are engaged in projects at site level at the handover stage and who are responsible for completing projects and formally handing them over to their clients.

It is about specifying what information and guidance the users will need; getting this material produced; and training the users accordingly. You will need to have a deep knowledge of the project, and also have access to the necessary detailed information. You will need drafting, editing and training skills. You may choose to delegate the detailed work to others, but then you will be responsible for their performance.

It is about completing the snagging activities, overseeing the commissioning, and managing the contractual documentation. You will need to have good organisational and interpersonal skills, as well as giving attention to technical detail.

It is about the final step in the "learning cycle" - systematically gathering the intelligence that the project has yielded, reviewing the information and deciding how future projects can benefit from this evaluation. You will need to have good analytical and planning skills, and the necessary leadership skills to carry your team with you.

Performance criteria

You must be able to:

Provide information and guidance on the operation and maintenance of works and installations

- P1 specify what **information and guidance** will be needed by **users** of the **works and installations**
- P2 capture progressively and record the most recent **information** produced during design, production and installation, which could be used for **guidance material** about operation and maintenance
- P3 produce **guidance material** on operation and maintenance which is logically structured, in a durable format and capable of interpretation by an informed lay user
- P4 provide **information** in the **guidance material** which helps **users** to identify limitations and to operate and maintain equipment, systems and services efficiently and without risk to health and safety
- P5 explain **information** in the **guidance material**, demonstrating to and training **users** to operate the **installations** efficiently and safely

Manage project handover

You must be able to:

- P6 confirm **project requirements**, consult with **stakeholders** and develop and agree a commissioning programme
- P7 check that **project requirements** have been met and record outstanding work and defects
- P8 ensure that commissioning inspections and tests that require certification are carried out and ensure that they are witnessed by **stakeholders** as required
- P9 identify and arrange for the satisfactory completion of any outstanding work
- P10 arrange a handover inspection involving all relevant **stakeholders**, confirm their concerns that need to be addressed, and record and agree any required actions
- P11 check that **stakeholders'** respective **responsibilities** are adopted
- P12 assemble and hand over **works, installations and operational information and documentation** in accordance with the contract

Obtain and evaluate project feedback information and make improvements

You must be able to:

- P13 promote the value of making **improvements from feedback** and encourage all **those involved in the project** to cooperate and obtain **feedback information**
- P14 identify and agree the areas to focus on for making **improvements from feedback**
- P15 identify and agree valid and reliable **methods and sources** for obtaining **feedback information** throughout **project stages** and for assessing and recommending **improvements from feedback**
- P16 obtain, investigate and assess **feedback information** from all relevant **methods and sources**

**Performance
criteria**

- P17 review the **feedback information**, matching it against the original requirements and objectives and summarise both positive and negative factors
- P18 recommend **improvements from feedback** received and justify the recommendations to decision makers
- P19 classify **improvements from feedback** which have been agreed and incorporate the **improvements** accurately into updated procedures and databases
- P20 summarise changes and **improvements from feedback** which have been agreed and promote them for adoption and use

Knowledge and understanding

You need to know and understand:

Provide information and guidance on the operation and maintenance of works and installations

- K1 how and why to specify what **information and guidance** will be needed by **users** of the **works and installations** (evaluation)
- K2 how to capture progressively and record the most recent **information** produced during design, production and installation, which could be used for **guidance material** about operation and maintenance (application)
- K3 how to produce **guidance material** on operation and maintenance which is logically structured, in a durable format and capable of interpretation by an informed lay user (application)
- K4 how to provide **information** in the **guidance material** which helps **users** to identify limitations and to operate and maintain equipment, systems and services efficiently and without risk to health and safety (application)
- K5 explain **information** in the **guidance material**, demonstrating to and training **users** to operate the **installations** efficiently and safely (application)

Manage project handover

You need to know and understand:

- K6 how to confirm **project requirements**, consult with **stakeholders** and develop and agree a commissioning programme (application)
- K7 how to check that **project requirements** have been met and record outstanding work and defects (application)
- K8 how to ensure that commissioning inspections and tests that require certification are carried out and ensure that they are witnessed by **stakeholders** as required (application)
- K9 what to identify as the satisfactory completion of any outstanding work (understanding)
- K10 how to arrange a handover inspection involving all relevant **stakeholders** (application)
- K11 how to confirm their concerns that need to be addressed, and record and agree any required actions
- K12 how to check that **stakeholders'** respective **responsibilities** are adopted (application)
- K13 how to assemble and hand over **works, installations and operational information and documentation** in accordance with the contract (application)

Obtain and evaluate project feedback information and make improvements

You need to know and understand:

- K14 how and why to promote the value of making **improvements from feedback** and encourage all **those involved in the project** to cooperate and obtain **feedback information** (synthesis)

Knowledge and understanding

- K15 what to identify as the areas to focus on for making **improvements from feedback** (understanding)
- K16 how and why to agree the areas to focus on for making improvements from feedback (evaluation)
- K17 what to identify as valid and reliable **methods and sources** for obtaining **feedback information** throughout **project stages** and for assessing and recommending **improvements from feedback** (understanding)
- K18 how and why to agree valid and reliable **methods and sources** for obtaining **feedback information** throughout **project stages** and for assessing and recommending **improvements from feedback** (evaluation)
- K19 how to obtain **feedback information** from all relevant **methods and sources** (application)
- K20 how and why to investigate and assess **feedback information** from all relevant **methods and sources** (analysis)
- K21 how and why to review the **feedback information**, matching it against the original requirements and objectives and summarise both positive and negative factors (analysis)
- K22 how and why to recommend **improvements from feedback** received and justify the recommendations to decision makers (synthesis)
- K23 how to classify **improvements from feedback** which have been agreed and incorporate the **improvements** accurately into updated procedures and databases (application)
- K24 how to summarise changes and **improvements from feedback** which have been agreed and promote them for adoption and use (application)

Scope/range

Provide information and guidance on the operation and maintenance of works and installations

- 1 Information and guidance:
 - 1.1 as constructed information
 - 1.2 schedules
 - 1.3 specifications
 - 1.4 contract records
 - 1.5 photographs
 - 1.6 trade literature
 - 1.7 statutory consents
 - 1.8 commissioning and test certificates
 - 1.9 operating instructions and performance ratings
 - 1.10 guarantees
 - 1.11 warranties
 - 1.12 Health and Safety File
 - 1.13 energy
 - 1.14 certificates
- 2 Guidance - about:
 - 2.1 the design approach
 - 2.2 construction and installation details
 - 2.3 key references
 - 2.4 statutory and other limitations on use
 - 2.5 health and safety aspects
 - 2.6 operating installations
 - 2.7 maintenance guidance
 - 2.8 sources of replacement materials, components and equipment
 - 2.9 spare parts
 - 2.10 performance ratings
 - 2.11 energy usage
 - 2.12 environmental and sustainability aspects
 - 2.13 future demolition and decommissioning
- 3 Users:
 - 3.1 client

Scope/range

- 3.2 facilities/asset managers
- 3.3 maintenance managers
- 3.4 operators
- 3.5 occupiers
- 4 Works and installations - features:
 - 4.1 structure
 - 4.2 materials
 - 4.3 finishes
 - 4.4 furnishings
 - 4.5 fittings
 - 4.6 power and light
 - 4.7 heating and ventilating
 - 4.8 telecommunications
 - 4.9 movement of goods and people
 - 4.10 special services and equipment
 - 4.11 external works
 - 4.12 landscaping
- 5 Information - produced by:
 - 5.1 consultants
 - 5.2 contractors
 - 5.3 sub-contractors
 - 5.4 suppliers and manufacturers
- 6 Guidance material:
 - 6.1 user's manuals
 - 6.2 log books
 - 6.3 maintenance schedules
 - 6.4 as constructed information

Manage project handover

- 7 Project requirements:
 - 7.1 time
 - 7.2 quality
 - 7.3 cost

Scope/range

- 7.4 health and safety
- 7.5 regulations
- 7.6 sustainability
- 7.7 defects liability period
- 8 Stakeholders:
 - 8.1 clients
 - 8.2 users
 - 8.3 consultants
 - 8.4 contractors
 - 8.5 regulatory authorities
 - 8.6 facility/asset managers
- 9 Responsibilities:
 - 9.1 insurances
 - 9.2 security
 - 9.3 operations
 - 9.4 health and safety
 - 9.5 utility supply
 - 9.6 environmental sustainability
- 10 Works, installations and operational information and documentation:
 - 10.1 manuals and guidance materials
 - 10.2 plans
 - 10.3 as constructed information
 - 10.4 Health and safety file
 - 10.5 operating equipment
 - 10.6 security information and equipment
 - 10.7 certificates and warranties
 - 10.8 services

Obtain and evaluate project feedback information and make improvements

- 11 Improvements from feedback:
 - 11.1 management procedures
 - 11.2 client, design and construction team performance
 - 11.3 working arrangements

Scope/range

- 11.4 formal and informal communications
- 11.5 quality assurance and control
- 11.6 design and technical appraisal
- 11.7 operational appraisal
- 11.8 performance in use
- 11.9 benchmarking
- 11.10 post project review
- 11.11 Building Information Modelling
- 12 Those involved with the project:
 - 12.1 the design team
 - 12.2 CDM Co-ordinator
 - 12.3 specialist consultants
 - 12.4 the client
 - 12.5 contractors
 - 12.6 site inspectorate
 - 12.7 users
 - 12.8 managing agents
 - 12.9 facilities/asset managers
- 13 Feedback information:
 - 13.1 approved providers
 - 13.2 contract documentation
 - 13.3 design documentation
 - 13.4 as constructed information
 - 13.5 organisational documentation
 - 13.6 standard details
 - 13.7 specifications
 - 13.8 product information
 - 13.9 government and statutory publications
 - 13.10 research and advisory data
 - 13.11 periodicals and abstracts
- 14 Project stages:
 - 14.1 Stage 0 (Strategy)
 - 14.2 Stage 1 (Brief)

Scope/range

- 14.3 Stage 2 (Concept)
- 14.4 Stage 3 (Definition)
- 14.5 Stage 4 (Design)
- 14.6 Stage 5 (Build and Commission)
- 14.7 Stage 6 (Handover and Closeout)
- 14.8 Stage 7 (Operations and End of Life)
- 15 Methods and sources:
 - 15.1 project records and documentation
 - 15.2 site inspections
 - 15.3 scientific research and data
 - 15.4 studies of performance in use
 - 15.5 meetings
 - 15.6 questionnaires
 - 15.7 reports
 - 15.8 Building Information Modelling
 - 15.9 Post Occupancy Evaluation

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