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## Overview

This unit applies to designers who go onto site and become involved in the construction process. It is about ensuring the quality of the work activities. You must be able to specify what standards of quality you require to set up systems for carrying out the work activities to the agreed standards, deal with contingencies and non-compliance, and to gather feedback to identify which activities can be improved.

It is about working to programme. You must be able to set up systems for monitoring progress, to deal with resource problems, delays and disruptions, and continually seek ways of improving progress.

It is about controlling costs and making payments. You must be able to set up cost control systems; deal with variations; identify cost savings; and issue instructions and certificates

**Performance  
criteria**

*You must be able to:*

**Control contract(s) against agreed quality standards**

- P1 identify and interpret **quality standards** from available information and pass them to **people responsible** for their implementation, before they start work
- P2 specify, clearly and unambiguously, the responsibilities which individuals have for maintaining **quality standards**
- P3 set up **processes** for inspecting and controlling the quality of **work** and record the outcomes
- P4 check, regularly, that **work** conforms to the design requirements and the specified **quality standards**
- P5 identify **work** which fails to meet the requirements and specified **quality standards** and implement corrective action
- P6 inform **people responsible** about significant variations in **quality standards**, programme and safety implications, and suggest the decisions which they need to make and the actions they need to take
- P7 identify specifications which conflict with statutory and legal requirements and refer them to **people responsible** for modification
- P8 identify improvements from feedback received and recommend them to **people responsible**
- P9 agree amendments to the contract quality requirements and specifications and record them accurately

**Control contract progress against agreed programmes**

*You must be able to:*

- P10 develop and implement **systems to monitor and record** the progress of the contract against the agreed **programmes**
- P11 identify inadequately and inappropriately specified **resources**, inform **people responsible** and specify and obtain alternative **resources**
- P12 identify and **quantify** any **deviations** from planned progress which have occurred, or which may occur, and which could disrupt the **programme**
- P13 investigate the circumstances of any **deviations** thoroughly and agree and implement appropriate **corrective action**
- P14 recommend options which are most likely to minimise increases in cost and time and help the contract progress, and pass these on to **people responsible**
- P15 regularly inform **people responsible** about progress, changes to the operational **programme**, **resource** needs, and suggest the decisions and actions that need to be taken
- P16 identify improvements from feedback received and recommend them to **people responsible**

**Performance  
criteria**

*You must be able to:*

**Control contract costs and issue certification**

- P17 develop and implement appropriate contract quantities and cost control systems which are able to provide early warning of problems
- P18 ensure that accurate **quantities and cost data** is calculated and presented in an agreed format to the **people responsible**
- P19 identify and investigate any variations thoroughly and agree and implement **appropriate action** with **people responsible**
- P20 develop and implement systems and processes for identify **opportunities for cost savings** and recommend them to **people responsible**
- P21 inspect and check work against the **contract requirements**, record any variations and review for a certification decision to be made
- P22 issue appropriate **certificates** and notices, in accordance with the terms of the **contract requirements**, and within the time agreed, and justify and support certification decisions with valid evidence
- P23 check that the **people** involved in the contract are complying with **instructions and certificates** and the **contract requirements** and enforcing the terms of the **contract requirements** in cases of non-compliance

## Knowledge and understanding

*You need to know and understand:*

### Control contract(s) against agreed quality standards

- K1 what to identify as **quality standards** from available information and pass them to **people responsible** for their implementation, before they start work (understanding)
- K2 how and why to interpret **quality standards** from available information and pass them to **people responsible** for their implementation, before they start work (analysis)
- K3 how to pass them to **people responsible** for their implementation, before they start work (application)
- K4 how and why to specify, clearly and unambiguously, the responsibilities which individuals have for maintaining **quality standards** (evaluation)
- K5 how and why to set up **processes** for inspecting and controlling the quality of **work** and record the outcomes (synthesis)
- K6 how to record the outcomes of inspecting and controlling the quality of **work** (application)
- K7 how to check, regularly, that **work** conforms to the design requirements and the specified **quality standards** (application)
- K8 what to identify as **work** which fails to meet the requirements and specified **quality standards** and implement corrective action (understanding)
- K9 how to inform **people responsible** about significant variations in **quality standards**, programme and safety implications, and suggest the decisions which they need to make and the actions they need to take (application)
- K10 what to identify as specifications which conflict with statutory and legal requirements and refer them to **people responsible** for modification (understanding)
- K11 what to identify as improvements from feedback received and recommend them to people responsible (understanding)
- K12 how and why to agree amendments to the contract quality requirements and specifications and record them accurately (evaluation)

### Control contract progress against agreed programmes

*You need to know and understand:*

- K13 how and why to develop **systems to monitor and record** the progress of the contract against the agreed **programmes** (synthesis)
- K14 how to implement **systems to monitor and record** the progress of the contract against the agreed **programmes** (application)
- K15 what to identify as inadequately and inappropriately specified **resources** (understanding)
- K16 how to inform **people responsible** about inadequately and inappropriately specified **resources**, and obtain alternative **resources** (application)

**Knowledge and  
understanding**

- K17 how and why to specify alternative **resources** (evaluation)
- K18 what to identify as any **deviations** from planned progress which have occurred, or which may occur, and which could disrupt the **programme** (understanding)
- K19 how and why to **quantify** any **deviations** from planned progress (analysis)
- K20 how and why to investigate the circumstances of any **deviations** (analysis)
- K21 how and why to agree **corrective action** in circumstances of any **deviations** (evaluation)
- K22 how to implement **corrective action** (application)
- K23 how and why to recommend options which are most likely to minimise increases in cost and time and help the contract progress (synthesis)
- K24 how to inform **people responsible** about significant variations in **quality standards**, programme and safety implications, and suggest the decisions which they need to make and the actions they need to take (application)
- K25 how and why to suggest the decisions and actions that need to be taken (synthesis)
- K26 what to identify as improvements from feedback received (understanding)
- K27 how and why to recommend improvements to **people responsible** (synthesis)

**Control contract costs and issue certification**

*You need to know  
and understand:*

- K28 how and why to develop appropriate contract quantities and cost control systems which are able to provide early warning of problems (synthesis)
- K29 how to implement appropriate contract **quantities and cost** control systems which are able to provide early warning of problems (application)
- K30 how to ensure that accurate **quantities and cost data** is calculated and presented in an agreed format to the **people responsible** (application)
- K31 what to identify as any variations thoroughly and agree and implement **appropriate action** with **people responsible**
- K32 how and why to investigate any variations thoroughly and agree and implement **appropriate action** with **people responsible** (analysis)
- K33 how and why to develop systems and processes for identifying **opportunities for cost savings** (synthesis)
- K34 how to implement systems and processes for identifying **opportunities for cost savings** (application)
- K35 how and why to recommend systems and processes for identifying **opportunities for cost savings** to **people responsible** (synthesis)
- K36 how to inspect work against the **contract requirements**, record any variations and review for a certification decision to be made (synthesis)

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**Knowledge and  
understanding**

- K37 how to check work against the **contract requirements**, record any variations and review for a certification decision to be made (application)
- K38 how to issue appropriate **certificates** and notices, in accordance with the terms of the **contract requirements**, and within the time agreed, and justifying and support certification decisions with valid evidence (application)
- K39 how to check that the **people** involved in the contract are complying with **instructions and certificates** and the **contract requirements** and enforcing the terms of the **contract requirements** in cases of non-compliance (application)

## Scope/range

### Control contract(s) against agreed quality standards

- 1 Quality standards:
  - 1.1 statutory requirements
  - 1.2 project specifications
  - 1.3 British Standards
  - 1.4 International Standards
  - 1.5 Codes of Practice
  - 1.6 organisation standards
  - 1.7 trade advisory guidance and best practice
  - 1.8 benchmarks
  - 1.9 dimensional control
  - 1.10 certification and accreditation of products and systems
- 2 People responsible:
  - 2.1 the client
  - 2.2 contractors
  - 2.3 consultants
  - 2.4 sub-contractors
  - 2.5 suppliers
- 3 Processes:
  - 3.1 visual inspection
  - 3.2 comparison with design requirements
  - 3.3 comparison with standard documentation
  - 3.4 checking manufacturers' documentation
  - 3.5 checking materials supply
  - 3.6 sampling and mock-ups
  - 3.7 testing
  - 3.8 site inspection reports
  - 3.9 contractors' reports
  - 3.10 meetings
- 4 Work:
  - 4.1 materials and components and their use
  - 4.2 methods of construction
  - 4.3 completed elements

**Scope/range**

**Control contract progress against agreed programmes**

- 5 Systems to monitor and record:
  - 5.1 visual inspection
  - 5.2 resource records
  - 5.3 site inspection reports
  - 5.4 contractors' reports
  - 5.5 certified payments
  - 5.6 written, graphical and electronic records of actual work against programmed work
  - 5.7 site meetings
  - 5.8 organisational procedures
  - 5.9 management reports
  - 5.10 benchmarks
  - 5.11 comparison with project requirements
  - 5.12 Building Information Modelling
- 6 Programmes:
  - 6.1 bar charts
  - 6.2 network analysis
  - 6.3 critical path
  - 6.4 project expenditure forecasts
  - 6.5 action lists
  - 6.6 method statements
- 7 Resources:
  - 7.1 people
  - 7.2 plant and equipment
  - 7.3 materials and components
  - 7.4 finance
  - 7.5 time
  - 7.6 specialist services
  - 7.7 public utility services
  - 7.8 information
- 8 People responsible:
  - 8.1 the client



**Scope/range**

- 8.2 contractors
- 8.3 consultants
- 8.4 sub-contractors
- 8.5 suppliers
- 9 Quantify:
  - 9.1 method study
  - 9.2 work study
  - 9.3 production analysis
  - 9.4 Building Information Modelling
- 10 Deviations:
  - 10.1 resource shortages
  - 10.2 design problems and constraints
  - 10.3 industrial disputes
  - 10.4 lack of essential construction information
  - 10.5 construction errors
  - 10.6 contract variations
  - 10.7 inclement weather
  - 10.8 physical constraints
  - 10.9 legal
  - 10.10 social
  - 10.11 environmental
  - 10.12 force majeure
- 11 Corrective action:
  - 11.1 restore progress in accordance with agreed programme
  - 11.2 agree new completion dates
  - 11.3 initiate contract claim
  - 11.4 securing additional resources
  - 11.5 altering planned work

**Control contract costs and issue certification**

- 12 Quantities and cost data:
  - 12.1 materials
  - 12.2 completed work

**Scope/range**

- 12.3 dayworks
- 12.4 periodic valuations
- 12.5 retention sums
- 12.6 forecasts of expenditure
- 12.7 contract programme and progress
- 13 People responsible:
  - 13.1 the client
  - 13.2 contractors
  - 13.3 consultants
  - 13.4 sub-contractors
  - 13.5 suppliers
  - 13.6 line management
- 14 Appropriate action:
  - 14.1 agree cost changes
  - 14.2 agree quality changes
  - 14.3 agree programme changes
- 15 Opportunities for cost savings:
  - 15.1 waste reduction
  - 15.2 resource management and logistics
  - 15.3 applications of new technologies and materials
  - 15.4 energy management
  - 15.5 recycling/re-using materials
  - 15.6 alternative sources and types of materials
  - 15.7 revisions in quality
  - 15.8 standardisation
  - 15.9 alternative construction methods
- 16 Contracts requirements:
  - 16.1 main contract
  - 16.2 sub-contract
  - 16.3 lump sum
  - 16.4 design and construct
  - 16.5 schedule based
  - 16.6 prime cost based

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**Scope/range**

- 16.7 firm price
- 16.8 fluctuating price
- 16.9 labour and materials
- 16.10 labour only
- 16.11 goods and material supply only
- 16.12 service contracts
- 17 Instructions and certificates:
  - 17.1 instruction
  - 17.2 non-conformance
  - 17.3 dayworks
  - 17.4 Interim Certificate
  - 17.5 Statement of Retention
  - 17.6 notification to Nominated Subcontractor
  - 17.7 Revision to Completion Date
  - 17.8 Partial Possession
  - 17.9 Schedule of Defects
  - 17.10 Making Good Defects
  - 17.11 Practical Completion/Final Notice
  - 17.12 Final Certificate

COSBEDMO18- SQA Unit Code HG4E 04  
Control projects in built environment design  
management

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