

# COSCCOMO17 - SQA Unit Code FM7E 04

## Optimise and control contract progress and costs in construction contracting operations management



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### Overview

This unit is about developing systems to monitor and record progress and briefing decision makers. It is also about managing and implementing resource and cost control systems and implementing corrective action.

You will need to develop systems to monitor and record progress, review resources to accommodate changing circumstances in order to optimise resources. You will also need to confirm and investigate any deviations to implement corrective action. You will also need to brief decision makers about progress, resources and action that need to be taken. You will then need to identify improvements and recommend them to decision makers.

You will need to manage and implement resource and cost control systems. You will also need to review and summarise cost data, identify variations and trends and identify and quantify opportunities for commercial cost savings. You will then need to investigate variations and agree and implement corrective action.

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### Performance criteria

*You must be able to:*

#### Optimise contract progress

- P1 develop **resource and cost control systems to monitor and record** the progress of the contract against the agreed **programme**
- P2 review and optimise **resources** to accommodate **changing circumstances**
- P3 confirm and investigate the circumstances of any **deviations** thoroughly and agree and implement appropriate **corrective action**
- P4 brief **decision makers** about progress, changes to the operational programme, **resource** needs and suggest action that need to be taken
- P5 identify improvements from feedback received and recommend them to **decision makers**

#### Control contract costs

*You must be able to:*

- P6 manage and implement appropriate **resource and cost control systems** which are able to provide early warning of problems
- P7 review and summarise accurate **resource and cost data** and present it in a format which will help people to make decisions
- P8 identify variations and trends in **resource and cost data** and identify and quantify commercial **opportunities for cost savings**
- P9 investigate any variations and agree and implement appropriate **corrective action**

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### Knowledge and understanding

*You need to know and understand:*

#### Optimise contract progress

- K1 how and why to develop **resource and cost control systems to monitor and record** the progress of the contract against the agreed **programme** (synthesis)
- K2 how and why to review and optimise **resources** to accommodate **changing circumstances** (analysis)
- K3 how to confirm the circumstances of any **deviations** (application)
- K4 how and why to investigate the circumstances of any **deviations** (analysis)
- K5 how and why to agree **corrective action** in the circumstances of any **deviations** (evaluation)
- K6 how to implement **corrective action** in the circumstances of any **deviations** (application)
- K7 how to brief **decision makers** about progress, changes to the operational programme and **resource** needs (application)
- K8 how and why to suggest the decisions and actions that need to be taken (synthesis)
- K9 what to identify as improvements from feedback received (understanding)
- K10 how and why to recommend improvement to **decision makers** (synthesis)

#### Control contract costs

*You need to know and understand:*

- K11 how and why to manage appropriate **resource and** cost control systems which are able to provide early warning of problems (evaluation)
- K12 how to implement appropriate **resource and** cost control systems which are able to provide early warning of problems (application)
- K13 how and why to review accurate **resource and cost data** in a format which will help people to make decision (analysis)
- K14 how to summarise and present accurate **resource and cost data** in a format which will help people to make decision (application)
- K15 present **resource and cost data** in a format which will help people to make decisions (application)
- K16 how and why to identify variations and trends in **resource and cost data** (analysis)

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K17 what to identify **opportunities for cost savings** (understanding)

K18 how to quantify **opportunities for cost savings** (application)

K19 how and why to investigate any variations (analysis)

K20 how and why to agree appropriate **corrective action** (evaluation)

K21 how to implement appropriate **corrective action** (application)

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### Scope/range

#### Optimise contract progress

- 1 Resource and cost control systems:
  - 1.1 contractual procedures and meetings
  - 1.2 operational procedures and meetings
  - 1.3 open book accounting
  - 1.4 electronic recording
- 2 Systems to monitor and record:
  - 2.1 inspection and testing
  - 2.2 resource records
  - 2.3 site inspection reports
  - 2.4 contractors' reports
  - 2.5 certified payments
  - 2.6 written, graphical and electronic records of actual work against programmed work
  - 2.7 meetings
  - 2.8 key performance indicators
  - 2.9 organisational procedures
  - 2.10 management reports
  - 2.11 benchmarks
  - 2.12 organisational procedures
  - 2.13 comparison with project requirements
  - 2.14 supply chain management
- 3 Programmes:
  - 3.1 bar charts
  - 3.2 flow charts
  - 3.3 critical path
  - 3.4 action lists
  - 3.5 time chainage
  - 3.6 method statements
  - 3.7 project expenditure forecasts

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- 4 Resource:
  - 4.1 people
  - 4.2 plant and equipment
  - 4.3 materials and components
  - 4.4 finance
  - 4.5 time
  - 4.6 specialist services
  - 4.7 utility services
  - 4.8 information
- 5 Changing circumstances:
  - 5.1 over & under supply
  - 5.2 quality issues
  - 5.3 changes to project programme
  - 5.4 non-availability
  - 5.5 inadequately & inappropriately specified resources
- 6 Deviations:
  - 6.1 resource shortages
  - 6.2 design problems and constraints
  - 6.3 industrial disputes
  - 6.4 lack of essential construction information
  - 6.5 construction errors
  - 6.6 weather conditions
  - 6.7 physical constraints
  - 6.8 legal
  - 6.9 environmental
  - 6.10 contract variations
  - 6.11 force majeure
- 7 Corrective action:
  - 7.1 restore progress to accordance with agreed programme

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- 7.2 secure additional resource
  - 7.3 alter planned work
  - 7.4 incentive schemes
  - 7.5 agreeing additional costs
  - 7.6 changing suppliers
  - 7.7 carrying out a value engineering exercise
  - 7.8 regulating expenditure to conform with budgets
  - 7.9 making a contract claim
- 8 Decision makers:
- 8.1 the client
  - 8.2 contractors
  - 8.3 sub contractors
  - 8.4 consultants
  - 8.5 suppliers
  - 8.6 internal management

#### **Control contract costs**

- 9 Resource and cost control systems:
- 9.1 contractual procedures and meetings
  - 9.2 operational procedures and meetings
  - 9.3 open book accounting
  - 9.4 electronic recording
- 10 Resource and cost data:
- 10.1 materials
  - 10.2 plant & equipment
  - 10.3 people
  - 10.4 sub-contractors
  - 10.5 dayworks
  - 10.6 indirect costs
  - 10.7 final accounts

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- 10.8 periodic valuations
- 10.9 retention sums
- 10.10 forecasts of expenditure
- 10.11 performance information
- 10.12 contract programme and progress
- 11 Opportunities for cost saving:
  - 11.1 increase productivity
  - 11.2 modify project management structure
  - 11.3 use new technology
  - 11.4 manage energy consumption
  - 11.5 materials recovery and waste management
  - 11.6 seek permission to use alternative materials and/or source of materials
  - 11.7 reduce plant/labour/equipment resources
  - 11.8 apply lean construction processes
- 12 Corrective action:
  - 12.1 restore progress to accordance with agreed programme
  - 12.2 secure additional resource
  - 12.3 alter planned work
  - 12.4 incentive schemes
  - 12.5 agreeing additional costs
  - 12.6 changing suppliers
  - 12.7 carrying out a value engineering exercise
  - 12.8 regulating expenditure to conform with budgets
  - 12.9 making a contract claim



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**Originating organisation** ConstructionSkills

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**Original URN** COSCCOMO17

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**Relevant occupations** Building and civil engineering technicians; managers in construction; estimators; valuers and assessors managers; quantity surveyors

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**Suite** Construction Contracting Operations Management

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