

Overview

This unit is about producing a detailed schedule and procurement programme. You will need to produce a schedule of works that contains the project needs and range of services required. You will need to estimate work content and time duration and plan the schedule. You will need to draft and present the schedule of works to stakeholders. You will also need to use methods for production and record keeping which are consistent with quality assurance procedures.

You will need to confirm the resources that need to be procured and potential sources. You will need to develop a detailed procurement programme. You will need to identify any inconsistencies and variations and agree modifications to the programme. You will need to integrate the procurement programme with the requirements of the overall programme, monitor the programme and identify modifications which would offer cost and time benefits.

Performance criteria

You must be able to:

Develop a schedule of works

- P1 produce a detailed **schedule** of works which contains a complete statement of the **project needs** and the **services** which will be required
- P2 estimate the work content and time duration accurately
- P3 plan the **schedule** of works so that it is achievable with the resources available
- P4 calculate appropriate and realistic allowances to meet anticipated contingencies
- P5 draft the **schedule** of works in a format which is appropriate to the type and scope of the work
- P6 **present** the **schedule** of works to stakeholders, correct any **inconsistencies and unacceptable variations** and agree amendments
- P7 **present** information clearly and accurately and reach agreement using a style and approach which maintains goodwill and trust
- P8 keep **registers and records** which are complete, accurate and up-to-date
- P9 obtain necessary **checks and approvals** for the content and presentation of schedules
- P10 use methods for production and **record** keeping which are consistent with quality assurance procedures

Develop a procurement programme

You must be able to:

- P11 confirm the areas of work for which **resources** will need to be procured and identify potential sources for obtaining them
- P12 develop a detailed **procurement programme** in an appropriate format
- P13 identify within the **procurement programme** the lead times for ordering and receiving essential **resources** appropriate to the **project stage**
- P14 analyse the critical path for procuring and use of **resources** and build in sufficient buffers to optimise project programming
- P15 identify any **inconsistencies and unacceptable variations** in the **procurement programme**, recommend feasible alternatives, and agree modifications to the **programme** with stakeholders
- P16 integrate the **procurement programme** so that it is consistent with the requirements of the **overall programme**, statutory bodies and others who will be affected
- P17 monitor the **procurement programme** and identify modifications which would suit changed circumstances or which offer cost and time benefits

Knowledge and understanding

You need to know and understand:

Develop a schedule of works

- K1 how to produce a detailed **schedule** of works which contains a complete statement of the **project needs** and the **services** which will be required (application)
- K2 how and why to estimate the work content and time duration accurately (analysis)
- K3 how and why to plan the **schedule** of works so that it is achievable with the resources available (synthesis)
- K4 how to calculate appropriate and realistic allowances to meet anticipated contingencies (application)
- K5 how and why to draft the **schedule** of works in a format which is appropriate to the type and scope of the work (synthesis)
- K6 how to **present** the **schedule** of works to stakeholders (application)
- K7 how to correct any **inconsistencies and unacceptable variations** (application)
- K8 how and why to agree amendments to the **schedule** of works to stakeholders (evaluation)
- K9 how to **present** information clearly and accurately (application)
- K10 how and why to reach agreement using a style and approach which maintains goodwill and trust (evaluation)
- K11 how to keep **registers and records** which are complete, accurate and up-to-date (application)
- K12 how to obtain necessary **checks and approvals** for the content and presentation of schedules (application)
- K13 how to use **methods** for production and **record** keeping which are consistent with quality assurance procedures (application)

Develop a procurement programme

You need to know and understand:

- K14 how to confirm the areas of work for which **resources** will need to be procured (application)
- K15 what to identify as potential sources for obtaining **resources** (understanding)
- K16 how and why to develop a detailed **procurement programme** in an appropriate format (synthesis)
- K17 what to identify as **the lead times for ordering and receiving essential resources** the **procurement programme** appropriate to the **project stage** (understanding)
- K18 how and why to analyse the critical path for the procuring and use of **resources** (analysis)
- K19 how and why to build in sufficient buffers to optimise project programming (synthesis)

Knowledge and understanding

- K20 what to identify as any **inconsistencies and unacceptable variations** in the **procurement programme (understanding)**
- K21 how and why to recommend feasible alternatives to the **programme** with stakeholders (synthesis)
- K22 how and why to agree modifications to the **programme** with stakeholders (evaluation)
- K23 how and why to integrate the **procurement programme** so that it is consistent with the requirements of the **overall programme**, statutory bodies and others who will be affected (synthesis)
- K24 how and why to monitor the **procurement programme** (analysis)
- K25 what to identify as modifications which would suit changed circumstances or which offer cost and time benefits (understanding)

Scope/range

Develop a schedule of works

- 1 Schedules:
 - 1.1 schedules of rates
 - 1.2 schedules of works materials, building elements and components, finishes
 - 1.3 health and safety plan
 - 1.4 archiving
 - 1.5 cutting sheets and requisitions
- 2 Project needs:
 - 2.1 time
 - 2.2 cost
 - 2.3 quality objectives
- 3 Services:
 - 3.1 design (including management services)
 - 3.2 materials
 - 3.3 construction (e.g. buildings, roads, motorways, railways, civil engineering works and all infrastructure projects)
 - 3.4 plant and equipment
 - 3.5 people
 - 3.6 manufacturing
- 4 Present:
 - 4.1 orally
 - 4.2 in writing
 - 4.3 graphically
 - 4.4 electronically
- 5 Inconsistencies and unacceptable variations:
 - 5.1 working arrangements
 - 5.2 staging of payments
 - 5.3 schedule of deliveries
 - 5.4 obligations to third parties
 - 5.5 statutory obligations and approvals
- 6 Register and records:
 - 6.1 electronic
 - 6.2 incoming and outgoing information and document registers

Scope/range

- 6.3 records of information and document approval and revision
- 6.4 quality assurance documentation
- 7 Checks and approvals cover:
 - 7.1 format
 - 7.2 presentation
 - 7.3 accuracy (including balancing checks)
 - 7.4 technical content
 - 7.5 completeness
 - 7.6 referencing
 - 7.7 cross-referencing and correlation with associated documents and information
 - 7.8 spelling, grammar and punctuation
 - 7.9 status
 - 7.10 positioning
 - 7.11 shape
 - 7.12 dimensions
 - 7.13 tolerances
 - 7.14 composition
 - 7.15 fixing
 - 7.16 annotation
 - 7.17 symbols and conventions
 - 7.18 co-ordination
 - 7.19 non-duplication
 - 7.20 validation of measurements
 - 7.21 revision control

Develop a procurement programme

- 8 Resources:
 - 8.1 information (including documents and drawings)
 - 8.2 labour, plant and equipment, materials
 - 8.3 services
 - 8.4 finance including cash flow
- 9 Procurement programme for:
 - 9.1 principal contractors

Scope/range

- 9.2 sub/works/trade contractors
- 9.3 suppliers
- 9.4 consultants
- 10 Project stage
 - 10.1 Stage 2 (Concept)
 - 10.2 Stage 3 (Definition)
 - 10.3 Stage 4 (Design)
 - 10.4 Stage 5 (Build and Commission)
 - 10.5 Stage 6 (Handover and Closeout)
- 11 Inconsistencies and unacceptable variations:
 - 11.1 working arrangements
 - 11.2 staging of payments
 - 11.3 schedule of deliveries
 - 11.4 obligations to third parties
 - 11.5 statutory obligations and approvals
- 12 Overall programme:
 - 12.1 clients' overall timescale and requirements
 - 12.2 tender and contract activities
 - 12.3 key dates for long delivery items

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Prepare procurement schedules and programmes of works in construction contracting operations management



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