Overview

This unit is about assessing project information and selecting methods which meet technical project criteria. It is also about analysing the sequential programming of activities and confirming alterations and developing a monitoring system for the works programme.

You will need to assess project information and obtain more information where required. You will need to identify, evaluate and select methods which meet technical and project criteria. You will also need to analyse and quantify the selected methods for their activity content and review method statements to ensure that they are accurate and acceptable for the people involved.

You will need to prepare a draft work programme which includes calculations of resources needed for major activities. You will also need to evaluate alternative methods and resources to meet project requirements and obtain advice and clarification where resources are not available. You will need to analyse the sequential programming of activities against external factors and resources to meet project requirements. You will then need to ensure that programmes and schedules of activities are consistent with the complexities of the project. You will also need to confirm any alternations made to the works programme and develop a monitoring system for it.
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Evaluate work methods and programme in construction contracting operations management

**Performance criteria**

**You must be able to:**

<table>
<thead>
<tr>
<th>P1</th>
<th>Evaluate, review and select work methods</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>assess the available <strong>project information</strong> accurately and summarise it to enable decisions on <strong>production</strong>, installation and work methods to be made</td>
</tr>
<tr>
<td>P2</td>
<td>obtain more information from <strong>other sources</strong> in cases where the available <strong>project information</strong> is insufficient</td>
</tr>
<tr>
<td>P3</td>
<td><strong>identify</strong> and evaluate the possible <strong>work methods</strong> against relevant <strong>technical</strong> and <strong>project criteria</strong> and select those which best meet the criteria</td>
</tr>
<tr>
<td>P4</td>
<td><strong>analyse</strong> the <strong>method</strong> which has been selected for its activity content and quantify it accurately</td>
</tr>
<tr>
<td>P5</td>
<td>propose the selected <strong>method</strong> to decision makers</td>
</tr>
<tr>
<td>P6</td>
<td>review method statements to ensure that they are accurate, clear, concise and acceptable to all the people involved</td>
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</tbody>
</table>

**Evaluate project programme**

**You must be able to:**

| P7 | identify major activities, calculate the **resources** needed and identify their sources from the **project information** available and prepare a draft work **programme** |
| P8 | evaluate alternative methods, **resources** and systems, in order to select the optimum solution to meet **project requirements** |
| P9 | obtain **clarification and advice** where the **resources** needed are not available |
| P10 | **analyse** the sequential programming of activities against **project requirements** and the requirements of significant **external factors** and necessary **resources** |
| P11 | ensure that the produced **programmes and schedules** of planned activities are consistent with the complexity of the project |
| P12 | confirm alterations to the works **programme** which will meet changed circumstances or offer cost and time benefits, calculate the savings accurately and justify them to decision makers |
| P13 | develop a **system for monitoring and recording** the works **programme**, implement it and use the results to improve future production and planning |
**Knowledge and understanding**

You need to know and understand:

<table>
<thead>
<tr>
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<tbody>
<tr>
<td>K1</td>
<td>how and why to assess the available project information accurately (analysis)</td>
</tr>
<tr>
<td>K2</td>
<td>how to summarise project information to enable decisions on production, installation and work methods to be made (application)</td>
</tr>
<tr>
<td>K3</td>
<td>how to obtain more information from other sources in cases where the available project information is insufficient (application)</td>
</tr>
<tr>
<td>K4</td>
<td>what to identify as the possible work methods against relevant technical and project criteria and select those which best meet the criteria (understanding)</td>
</tr>
<tr>
<td>K5</td>
<td>how and why to evaluate the possible work methods against relevant technical and project criteria and select those which best meet the criteria (evaluation)</td>
</tr>
<tr>
<td>K6</td>
<td>how and why to analyse the method which has been selected for its activity content and quantify it accurately (analysis)</td>
</tr>
<tr>
<td>K7</td>
<td>how and why to propose the selected method to decision makers (synthesis)</td>
</tr>
<tr>
<td>K8</td>
<td>how and why to review method statements to ensure that they are accurate, clear, concise and acceptable to all the people involved (analysis)</td>
</tr>
</tbody>
</table>

**Evaluate project programme**

You need to know and understand:

<p>| | |</p>
<table>
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<tr>
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<tbody>
<tr>
<td>K9</td>
<td>what to identify as major activities from the project information (understanding)</td>
</tr>
<tr>
<td>K10</td>
<td>how to calculate the resources needed for major activities (application)</td>
</tr>
<tr>
<td>K11</td>
<td>what to identify as the sources of resources from the project information available (understanding)</td>
</tr>
<tr>
<td>K12</td>
<td>how to prepare a draft work programme (application)</td>
</tr>
<tr>
<td>K13</td>
<td>how and why to evaluate alternative methods, resources and systems, in order to select the optimum solution to meet project requirements (evaluation)</td>
</tr>
<tr>
<td>K14</td>
<td>how to obtain clarification and advice where the resources needed are not available (application)</td>
</tr>
<tr>
<td>K15</td>
<td>how and why to analyse the sequential programming of activities against project requirements and the requirements of significant external factors and necessary resources (analysis)</td>
</tr>
</tbody>
</table>
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K16 how to ensure that the produced programmes and schedules of planned activities are consistent with the complexity of the project (application)

K17 how to confirm alterations to the works programme which will meet changed circumstances or offer cost and time benefits (application)

K18 how to calculate the savings accurately from alternations to the works programmes (application)

K19 how to justify the savings from alterations to the works programmes to decision makers (evaluation)

K20 how and why to develop a system for monitoring and recording the works programme (synthesis)

K21 how to implement a system for monitoring and recording the works programme and use the results to improve future production and planning (application)

K22 how to use the results from the system for monitoring and recording the works programme to improve future production and planning (application)
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**Scope/range**

**Evaluate, review and select work methods**

1. **Project information:**
   1.1 conditions and obligations of contract
   1.2 bills of quantities
   1.3 specifications
   1.4 information (digital models, documents, drawings, graphical and non-graphical electronic data files)
   1.5 health, safety and welfare plans
   1.6 environmental plan
   1.7 time-scales
   1.8 risk

2. **Production, installation and work methods:**
   2.1 sequencing and integration of work operations
   2.2 organisation and use of resources (people, plant, materials, finance)
   2.3 construction and installation techniques
   2.4 temporary works
   2.5 prefabrication and standardisation
   2.6 handling operations
   2.7 materials recovery & waste management
   2.8 supply chain management
   2.9 health, safety and welfare
   2.10 impact on programming processes & workforce of new materials and technologies

3. **Other sources:**
   3.1 consultant
   3.2 contractors
   3.3 sub-contractors
   3.4 suppliers
   3.5 statutory and regulatory authorities
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3.6 technical literature
3.7 trade literature
3.8 organisational expertise

4 Identify work methods:
4.1 standard procedures
4.2 investigative research

5 Technical criteria:
5.1 materials & component performance & availability
5.2 structural forms
5.3 physical conditions and environmental factors
5.4 health, safety and welfare
5.5 fire protection
5.6 access
5.7 plant, equipment & people availability
5.8 traffic generation and management
5.9 waste and sustainability
5.10 weather conditions
5.11 energy and low carbon efficiency
5.12 buildability
5.13 protection of archaeological and historically valuable resources
5.14 demolition

6 Project criteria:
6.1 cost benefit
6.2 value engineering
6.3 conformity to statutory requirements
6.4 phased occupancy
6.5 facility/asset management requirements
6.6 contract requirements in terms of time, quantity and quality
6.7 environmental considerations
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6.8 defined services
6.9 impact on occupiers and near neighbours
6.10 community benefits, including skills and training
6.11 third party obligations
6.12 other related programmes
6.13 supply lead times
6.14 industry performance
6.15 benchmarking

7 Analyse - using:
7.1 method study
7.2 production analysis
7.3 feedback from similar projects
7.4 Building Information Modelling

Evaluate project programme

8 Resources:
8.1 cash flow
8.2 people
8.3 consultants
8.4 plant and equipment
8.5 materials and components
8.6 contractors
8.7 sub-contractors

9 Project information:
9.1 conditions and obligations of contract
9.2 bills of quantities
9.3 specifications
9.4 information (digital models, documents, drawings & graphical and non-graphical electronic data files)
9.5 health, safety and welfare plans
9.6 environmental plan
9.7 timescales
9.8 risk

10 Programmes and schedules:
  10.1 digital timeline model
  10.2 bar charts
  10.3 flow charts
  10.4 critical path
  10.5 line of balance
  10.6 time chainage
  10.7 action lists
  10.8 method statements
  10.9 check costs
  10.10 control systems
  10.11 as built programme

11 Clarification and advice:
  11.1 the client/client’s representative
  11.2 consultants
  11.3 project team partners
  11.4 industry research
  11.5 technical publications
  11.6 trade literature
  11.7 experts, including experienced craftsmen and suppliers

12 Analyse - using:
  12.1 method study
  12.2 production analysis
  12.3 Building Information Modelling

13 Project requirements:
  13.1 contract conditions
  13.2 defined responsibilities
Evaluate work methods and programme in construction contracting operations management

13.3 contract programme stipulations
13.4 statutory consent
13.5 Building Control notification
13.6 third party obligations
13.7 organisation and use of resources
13.8 health and safety requirements
13.9 quantities
13.10 energy and low carbon efficiency
13.11 protection of archaeological and historically valuable resources
13.12 skills and training development

14 External factors:
14.1 other related programmes
14.2 supply lead times
14.3 contingencies
14.4 special working conditions
14.5 impact on occupiers and near neighbours
14.6 weather conditions
14.7 statutory limitations
14.8 site conditions
14.9 off-site manufacture and on-site assembly

15 System for monitoring and recording:
15.1 manual
15.2 electronic
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<th>ConstructionSkills</th>
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<tr>
<td><strong>Date Approved</strong></td>
<td>November 2013</td>
</tr>
<tr>
<td><strong>Indicative review date</strong></td>
<td>May 2020</td>
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<td><strong>Original URN</strong></td>
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<td><strong>Relevant occupations</strong></td>
<td>Building and civil engineering technicians; managers in construction; estimators; valuers and assessors managers; quantity surveyors</td>
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<td><strong>Suite</strong></td>
<td>Construction Contracting Operations Management</td>
</tr>
<tr>
<td><strong>Keywords</strong></td>
<td>Project programming; contract; schedules;</td>
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