

National Occupational Standards
for
Project Control

Approved Version 1.01

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National Occupational Standards for Project Control

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Section 1 - Introduction

Background

National Occupational Standards in Project Control were first produced by the Engineering Industry Standing Conferences in 1996. National and Scottish Vocational Qualifications based upon these Standards were accredited shortly afterwards.

In December 2003, the Regulatory Authorities commissioned a project to review and revise the Standards. A project Working Group was established under the chairmanship of the ECITB Project Manager. Membership of the Working Group included expert Project Control practitioners representing a wide range of businesses, professional bodies and business associations. The emerging Standards received widespread endorsement and were approved by the Regulatory Authorities in November 2004.

Structure and Content of the Project Management Standards

The Standards have been written as 51 separate and self contained units of competence, each relating to a distinct functional area. Between them they cover the full spectrum of project control functions.

The Standards are supported by:

- i) Qualification Structures.
- ii) an Assessment Strategy, agreed with Awarding Bodies that have expressed the intention to offer National and Scottish Vocational Qualifications (N/SVQs) based upon them.
- iii) indications of where evidence relating to the Units is likely to contribute as evidence towards Key or Core Skill Units.

Full advantage has been taken of opportunities to present the Standards in a structure and language that that overcomes issues encountered by users and identified in the Beaumont Report on N/SVQs published in 1995.

The Units of Competence contain four main components:

- i) A Unit Commentary which defines the context of the unit.
- ii) Statements of Competent Performance required by the Unit, headed 'You must be able to .
- iii) A listing of the scope of key words or phrases used within the Statements of Competent Performance, i.e. an explanatory amplification of the meaning of the key words or phrases as required by the Unit.
- iv) A listing of specific knowledge required by the Unit.

A balance has been sought in the definition of the above items to allow for interpretation in accordance with project context and business environment.

Acknowledgements

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Members of the Project Working Group

Sue Beavil	Association for Project Management
Paul Clewes	British Energy
Richard Dodd	ECITB
Tim Feest	OSCEng
Phil Gamble	Amec
Des Hendrick	Ove Arup
Nigel Hibberd	BNFL
Steve Hunt	Parsons
Howard Malleson	Prest Consulting
Nick Martin	CBI John Brown
Bernard Peters	Rolls Royce
Richard Plumb	ACostE

Observers

Nick Juba	Qualifications and Curriculum Authority
Hilary Rutherford	Scottish Qualifications Authority

Using Occupational Standards

The Qualifications and Curriculum Authority has defined competence as The ability to perform to standards required in employment across a range of circumstances and to meet changing needs . Occupational Standards provide a means of measuring competence in the workplace.

The Standards thus provide natural basis for the development of National and Scottish Vocational Qualifications in Project Control, and it is the role of Awarding Bodies to take this process forward.

The Standards have a wide variety of other purposes, at both the corporate and the individual level, however, the more significant of which are indicated below. (Ref Towards a Competent Workforce by Bob Mansfield and Lindsay Mitchell, published in the UK by Gower)

Recruitment and Selection

- Preparing recruitment specifications and job advertisements
- Identifying components of jobs: present and future

Job Design and evaluation

- Producing the job specification and description
- Monitoring roles and responsibilities
- Establishing criteria for payment and reward systems

Training and development programmes

- Identifying and specifying organisational needs
- Recognising individual achievements
- Identifying training and development needs: Continuous Professional Development
- Strategic planning of organisational requirements

Development of education and training programmes

- Curriculum design and development
- Relating skills-based learning to workplace requirements
- Developing specific learning objectives
- Developing the knowledge content for educational and training courses.
- Design of qualifications

Career guidance and development

- Auditing skills required and needed
- Recognition of competences achieved
- Identifying career progression opportunities

Professional requirements

- Linking Standards to the requirements of professional Institutions (e.g. APM)

Comment

Observations and comment for future consideration may be directed to:

ECITB
Blue Court
1 Church Lane
Kings Langley
Herts. WD4 8JP

Tel: 01923 260000
Fax: 01923 270969
E-mail: Richarddodd@ecitb.org.uk

List of Project Control Units
and
Standards

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List Of Units

Using Technical Skills

- PC1 Oversee the application of information technology (IT) to project control
- PC2 Apply information technology (IT) to project control
- PC3 Identify risks and evaluate options for their control
- PC4 Monitor risks and review contingencies
- PC5 Monitor the implementation of risk control measures
- PC6 Assure and control the quality of project control activities
- PC7 Apply quality assurance procedures to project control activities
- PC8 Retrieve, record and present project control information
- PC9 Acquire and handle information needed for project control

Working With People And Managing Yourself

- PC10 Provide advice and support to maintain progress
- PC11 Manage the project control team — agree objectives with teams and individuals
- PC12 Manage the project control team — allocate work
- PC13 Manage the continuing development of your personal and project control professional skills
- PC14 Develop yourself in the project control work role
- PC15 Develop the skills of your project control team members
- PC16 Develop and maintain effective working relationships
- PC17 Contribute to effective project working relationships
- PC18 Observe and apply professional ethics and values
- PC19 Plan and implement project control operational developments

Developing The Project

- PC20 Determine the requirements for project control
- PC21 Estimate and specify financial resources
- PC22 Develop the project programme
- PC23 Establish project procurement requirements
- PC24 Prepare project cost estimates
- PC25 Prepare the project programme
- PC26 Plan the project procurement activities
- PC27 Establish procedures, methods and systems
- PC28 Apply procedures, methods and systems
- PC29 Develop commercial control procedures

Project Implementation

- PC30 Develop the work breakdown and coding structures
- PC31 Establish project control budgets
- PC32 Establish project control programmes and schedules
- PC33 Prepare project control budgets
- PC34 Prepare project control programmes and schedules
- PC35 Monitor, control and report on exposure commitment and expenditure
- PC36 Carry out project cost control activities
- PC37 Monitor, control and report on project progress
- PC38 Carry out project scheduling activities
- PC39 Select tenderers and obtain estimates, bids and tenders
- PC40 Evaluate and select successful bids from tenderers
- PC41 Prepare the commercial aspects of bid and tender offers
- PC42 Conclude arrangement for the supply of sub-contracts, goods, materials and services
- PC43 Forecast the use of project financial resources
- PC44 Forecast the project schedule achievement
- PC45 Calculate the financial outcomes of activities
- PC46 Calculate activity completion data
- PC47 Evaluate the information and prepare claim submissions
- PC48 Provide commercial support to the agreement of claims
- PC49 Identify and quantify emerging changes

Closing Out The Project

- PC50 Ensure the completion of project control activities
- PC51 Evaluate project controls performance and project information and data

Unit PC1 Oversee the application of information technology(IT) to project control

Unit Commentary

This unit is concerned with the competence to oversee the application of IT in the execution of the project control functions.

The application of IT to:

- the collection and processing of commercial and technical data
- reporting current project status
- predicting future project status

has become an essential feature of project control activities. It has become essential that senior practitioners develop the necessary skills to oversee and apply IT to their role.

It is not intended that the competences should encompass installing and maintaining hardware or the development of software. It is, however, expected that competence will include the application of proprietary, specialist or bespoke software and IT systems to meet the specific project control requirements, the ability to control that application and to support other project control users.

You must be able to:

- a) Contribute to recommendations about the choice and use of software tools and IT systems in relation to the project control requirements.
- b) Extract, enter, edit and process information from a range of sources.
- c) Structure information and create reports to meet the needs of customers.
- d) Share your own skills and understanding to help others.
- e) Analyse the effectiveness of the application of IT to the project control functions and take steps to improve any weaknesses.
- f) Recommend and implement security measures to protect the confidentiality and integrity of project control data held in IT systems.

Scope:

1 Software tools

- Spreadsheets
- Databases
- Word processing
- Presentation
- Proprietary
- Bespoke

2 Range of sources

- Other IT systems
- Manually created
- Within own organisation
- Outside own organisation
- Geographically remote

3 Customers

- Colleagues
- Company and project management
- Clients
- Project stakeholders

4 Project control functions

- Estimating
- Cost control
- Planning
- Commercial support

5 Security measures

- Access rights to input
- Passwords
- Access rights to outputs
- Data consistency and back-up
- Recovery plans

6 IT systems

- Proprietary
- Specialist
- Bespoke

Specific knowledge required for this Unit:

- i) The attributes and limitations of available software tools.
- ii) Means by which selected project control IT tools can be customised to suit the project needs.
- iii) Factors to be considered in making recommendations as to software choices.
- iv) The operational requirements of the project control IT systems.
- v) Sources and flow paths of project data used for control purposes.
- vi) Methods that can be used to assess the effectiveness of IT applications.
- vii) Security systems and measures that can be used.
- viii) Ways of extracting data and formatting reports.
- viii) WWW enabled applications.
- ix) Interfacing the IT and data configuration systems between own and other organisations.

Unit PC2 Apply information technology (IT) to project control

Unit Commentary

This unit is concerned with the competence to apply IT in the execution of the project control functions.

The application of IT to:

- the collection and processing of commercial and technical data
- reporting current project status
- predicting future project status

has become an essential feature of project control activities. It has become essential that practitioners develop the necessary skills to and apply IT to their role.

It is not intended that the competences should encompass installing and maintaining hardware or the development of software. It is, however, expected that competence will include the application of proprietary, specialist or bespoke software and IT systems to meet the specific project control requirements and to share user experience with colleagues.

You must be able to:

- a) Utilise the software and IT systems that are required to execute the project control activities.
- b) Handle, edit, format and check information and data obtained from a range of internal and external sources.
- c) Extract, enter, and process information to produce the outputs required by customers.
- d) Share your own skills and understanding to help others.
- e) Implement the specified security measures to protect the confidentiality and integrity of project control data held in IT systems.

Scope:

1 Software and IT systems

- Spreadsheets
- Databases
- Word processing
- Presentation
- Proprietary
- Bespoke

2 Range of sources

- Other IT systems
- Manually created
- Within own organisation
- Outside own organisation
- Geographically remote

3 Customers

- Colleagues
- Company and project management
- Clients
- Project stakeholders

4 Security measures

- Access rights to input
- Passwords
- Access rights to outputs
- Data consistency and back-up
- Recovery plans

Specific knowledge required for this Unit:

- i) The attributes and limitations of available software tools.
- ii) Procedures and work instructions for the use of IT.
- iii) The operational requirements of the project control IT systems.
- iv) Sources and flow paths of project data used for control purposes.
- v) Security systems and measures that can be used.
- vi) Ways of extracting data and formatting reports.
- vii) Methods of entering and processing information.
- viii) WWW enabled applications

Unit PC3 Identify risks and evaluate options for their control

Unit Commentary

This unit defines the competence required to participate, with others, in the risk identification and evaluation process and assess the commercial impact of technical and business risks and their potential influence on the outcomes of the project. The context is the commercial impact on a project of the potential risks to project delivery and the options for their control.

It is not expected that project control practitioners will have the expertise, experience and competencies of risk management specialists. However, it would be expected that project control practitioners would work with colleagues and peers to implement a culture of risk awareness and management and the associated practices.

You must be able to:

- a) Identify all areas of perceived risk and review them with management and discipline specialists.
- b) Identify relevant risks, rank and record them.
- c) Access appropriate sources of information and seek advice when necessary.
- d) Analyse and evaluate the risks to establish potential consequences.
- e) Evaluate options for controlling perceived risks.
- f) Develop mitigating actions that address the risks effectively.
- g) Identify and allocate contingencies and allowances.

Scope:

1 Areas of perceived risk

- Uncertainty or unplanned circumstances
- Schedules or resources
- People, property or environmental factors
- Technological
- Commercial and contractual
- Product or service failures
- Costs and time
- Weather and other environmental conditions
- Legal constraints or litigation
- Health and safety
- Influences from sources outside the project participants

2 Sources of information and advice

- Statutes, regulations, codes of practice and related guidance
- Previous experience from within and without the organisation
- Technical guidance and research reports
- Business and commercial specialists
- Colleagues, customers and stakeholders
- External specialists

3 Consequences (on)

- Costs
- Income
- Cash requirements
- Programmes and schedules
- Contingencies
- Commercial and contractual liabilities

Specific knowledge required for this unit:

- i) Qualitative and quantitative risk analysis and management techniques
- ii) Communication and presentation of risk analysis data and results.
- iii) Implications of relevant legislation
- iv) Means of identifying the potential consequences of risks
- v) Techniques for collecting and evaluating information and its consistency
- vi) Probability analysis and risk modelling
- vii) Contingency and allowance management
- viii) Information sources internal and external
- ix) Organisational systems and procedures
- x) The technology and environment in which risk analysis techniques will be used
- xi) Implications of National, European and local regulations and codes of practice
- xii) Procedures for updating risk and mitigating action records

Unit PC4 Monitor risks and review contingencies

Unit commentary

This Unit is concerned with the competence required to monitor risks and to review contingencies throughout the course of the project's implementation. The context is the commercial impact on a project of the potential risks and the resulting mitigating actions.

You must be able to:

- a) Ensure that information and advice on identified potential risks and opportunities is received during project implementation.
- b) Assess the consequences of identified risks and opportunities to the commercial outcome of the project.
- c) Make recommendations on financial and programme contingencies and on action plans to mitigate the consequences of the identified risks.
- c) Review and amend contingencies and action plans for emerging areas of risk and opportunity.
- d) Maintain and update records of the commercial implications of identified risks and opportunities.

Scope:

1 Potential risks:

- Uncertainty or unplanned circumstances
- Schedules or resources
- People, property or environmental factors
- Technology — maturity/novelty
- Commercial and contractual
- Product or service failures
- Costs and time
- Weather and other environmental conditions
- Legal constraints or litigation
- Health and safety
- Influences from external sources

2 Consequences (on)

- Costs
- Income
- Cash requirements
- Programmes and schedules
- Contingencies
- Commercial and contractual liabilities

Specific knowledge required for this Unit:

- i) Methods of identifying and quantifying risks
- ii) Means of presenting risk and contingency data.
- iii) Potential consequences and opportunities of risks
- iv) Monitoring techniques
- v) Contingency and allowance allocation and management
- vi) Techniques for collecting and evaluating information
- vii) Information sources: internal and external
- viii) Organisational systems and procedures
- ix) Implications of National, European and local regulations and codes of practice

Unit PC5 Monitor the implementation of risk control measures

Unit commentary

This Unit is concerned with the competence required to monitor risks and to have appropriate contingencies and action plans in place throughout the course of the project s implementation.

The setting for the Unit is the ongoing evaluation and management of the consequences of the risks to project outcomes, including all direct and consequential risks.

You must be able to:

- a) Monitor the actions being taken to deal with the identified risks and opportunities, in line with procedures.
- b) Liase with other members of the project team to ensure that up to date information and advice is obtained on the consequences of the actions being taken to deal with the identified risks and opportunities.
- c) Review emerging risks and opportunities to establish the potential consequences.
- d) Provide a project control input into the review and amendment of contingencies and action plans to deal with emerging areas of risk and opportunity.
- e) Provide advice to the appropriate project staff to deal with identified shortcomings found in the actions being taken and the commercial consequences being identified.
- f) Maintain and update the records of the commercial implications of identified risks and opportunities.

Scope:

1 Areas of risk:

- Uncertainty or unplanned circumstances
- Schedules or resources
- People, property or environmental factors
- Technological
- Commercial and contractual
- Product or service failures
- Weather and other environmental conditions
- Legal constraints or litigation
- Health and safety
- Influences from sources outside the project participants

2 Consequences (on)

- Costs
- Income
- Cash requirements
- Programmes and schedules
- Contingencies
- Commercial and contractual liabilities

Specific knowledge required for this Unit:

- i) Principles of risk management and control.
- ii) Potential consequences and opportunities of risks
- iii) Monitoring techniques
- iv) Contingency allocation and management
- v) Techniques for collecting and evaluating information
- vi) Information sources: internal and external
- vii) Presentation of risk management and control information.
- viii) Organisational systems and procedures
- ix) The technology and environment in which risk analysis techniques will be used
- ix) Implications of National, European and local regulations and codes of practice

Unit PC6 Assure and control the quality of project control activities

Unit Commentary

This Unit is concerned with the competence required to ensure that there is the commitment and skills to achieve the required levels of quality in the execution of the project control activities. It requires the individual responsibilities to be defined and the monitoring and reporting systems to be in place.

The Unit is not concerned with the competences required of quality assurance and quality control specialists. However, it would be expected that senior project control practitioners would have the competence, supported by experience, to contribute to the development and implementation of quality assurance procedures and working methods applicable to project control activities.

You must be able to:

- a) Verify that the quality assurance procedures applicable to project control are appropriate and sufficient to meet the requirements.
- b) Ensure that the project control practitioners are committed to the quality assurance procedures in carrying out the project control activities.
- c) Ensure that data is gathered, processed and recorded in accordance with the agreed quality assurance procedures.
- d) Accurately assess the project control activity outcomes and performance against the specified requirements and targets.
- e) Identify non-conformances and report them clearly to those who need to know.
- f) Put in place corrective actions to deal with non-conformances and to limit their damaging effects.
- g) Ensure that project control records meet the needs of quality audits.

Scope:

1 Quality assurance procedures

- Company
- Contractors and suppliers
- Project specific
- Client

2 Project control practitioners

- Estimators
- Cost controllers
- Planners
- Commercial support

3 Non-conformance

- Activity outcomes
- Information and data

4 Corrective actions

- New procedures and working methods
- Training and skills enhancement
- Information, data and processing methods
- Improved reporting

5 Audits

- Carried out during project implementation
- Carried out after project completion
- Of checking and approval processes
- Carried out by internal and external bodies

Specific knowledge required for this Unit:

- i) Quality assurance methods and procedures applicable to the organisation and the project control functions.
- ii) Quality assurance codes and standards used by own or client organisations.
- iii) Benefits of the quality assurance system.
- iv) Sources of information on quality assurance.
- v) Quality assurance certification procedures operated within the organisation.
- vi) Quality audit processes.
- vii) Consequences of non-conformance.

Unit PC7 Apply quality assurance procedures to project control activities

Unit Commentary

This Unit is concerned with the competence required to apply agreed quality assurance procedures to project control activities. It requires the responsibilities of the individual project control practitioners to be defined and the monitoring and reporting systems to be in place.

The Unit is not concerned with the competences required of quality assurance and quality control specialists. However, it would be expected that project control practitioners would be able to support colleagues and peers in implementing a culture of quality and the associated practices.

You must be able to:

- a) Gather, process and record data in accordance with the agreed quality assurance procedures.
- b) Assess the project control activity outcomes and performance against the specified requirements and targets.
- c) Identify non-conformances and report them to those who need to know.
- d) Recommend corrective actions to deal with non-conformances and to limit their effects.
- e) Produce and maintain records that meet the needs of quality audits.

Scope:

1 Quality assurance procedures

- Company
- Contractors and suppliers
- Project specific
- Client

2 Non-conformance

- Activity outcomes
- Information and data

3 Corrective actions

- New procedures and working methods
- Training and skills enhancement
- Information, data and processing methods
- Improved reporting

4 Audits

- Carried out during project implementation
- Carried out after project completion
- Of checking and approval processes
- Carried out by internal and external bodies

Specific knowledge required for this Unit:

- i) Quality assurance methods and procedures applicable to the project and to the organisation.
- ii) Appropriate frequency and level of audits.
- iii) Sources of information on quality assurance.
- iv) National and international quality assurance codes and standards used by own organisation.
- v) Benefits achieved by reducing non-conformances.

Unit PC8 Retrieve, record and present project control information

Unit commentary

This Unit is concerned with the retrieval, recording and presenting of project control information. Checking the received information and data and its protection are also parts of this unit.

You must be able to:

- a) Check that the specified sources are capable of providing information and data that can be processed to meet the project control requirements.
- b) Describe, and refer to the responsible people, problems that arise when information is found to be inadequate for its intended use.
- c) Interrogate and process information and data using methods approved for use on the project.
- d) Record the results of processing the information and data in timely manner compatible with the project schedules.
- e) Apply the systems for information retrieval and storage that are approved for use on the project.
- f) Ensure that the protection of information accords with its value to the organisation, is in accordance with agreed stipulations from the providers and complies with the project s and organisation s procedures.

Scope:

1 Information

- Drawings
- Specifications
- Instructions
- Reports
- Data — including commercially sensitive
- Computer software

2 Providers

- Self
- Own organisation
- Contractors and suppliers
- Customers
- Public sources

3 Sources of Information

- In-house
- Contractors and suppliers
- Trade and technical publications
- Providers of resources

4 Systems for information storage

- Computerised and paper based
- Data bases and spreadsheets
- Based on work breakdown structure
- Centralised and distributed
- Work breakdown and other coding structures

6 Protection

- Back-up
- Physical security
- Procedural

Specific knowledge required for this Unit:

- i) Sources of information suitable for the activity.
- ii) How to derive information from information sources.
- iii) Principles and methods for organising, storing and retrieving information — manual and electronic.
- iv) Systems and methods for processing project control information and data.
- v) Procedures and systems for security and confidentiality of information.
- vi) Understanding the importance of the version control of information.

Unit PC9 Acquire and handle information needed for project control

Unit commentary

This Unit is concerned with the acquisition and handling of information needed for project control in order to meet the project's operational requirements. It encompasses establishing the methods and systems for obtaining, handling and storing information and data.

Verification of the acquired information, security and storage are an essential part of this Unit. It is also a requirement that the information is verified as being of the necessary quality to serve as a basis for the production of project control data, reports, actions etc.

You must be able to:

- a) Define the information and data requirements and identify the sources from which it will be obtained.
- b) Verify that information sources are capable of providing the information which meets the needs of the project control activities..
- c) Resolve the problems that arise when the required information and data cannot be found.
- d) Interrogate the quality and consistency of the information and data.
- e) Acquire the information in a timely manner compatible with the project schedules.
- f) Implement the systems for information storage to allow ready but controlled access.
- g) Ensure that access to project control data (obtained and generated) is controlled in accordance with the project and organisation's procedures.
- h) Establish that the protection of the acquired information accords with its value to the organisation and is in accordance with agreed stipulations from the provider.

Scope:

1 Information

- Drawings
- Specifications
- Instructions
- Reports
- Data — including commercially sensitive
- Computer software

2 Providers

- Self
- Own organisation
- Contractors and suppliers
- Customers
- Public sources

3 Sources of Information

- In-house
- Contractors and suppliers
- Trade and technical publications
- Providers of resources

4 Systems for information storage

- Computerised/paper based
- Data bases and spreadsheets
- Based on work breakdown structure
- Centralised/distributed
- Work breakdown and other coding structures

5 Protection

- Back-up
- Physical security
- Procedural

Specific knowledge required for this Unit:

- i) Sources of information suitable for the activity.
- ii) How to derive information from information sources.
- iii) How information is validated against the requirements.
- iv) Principles and methods for organising, storing and retrieving information — manual and electronic.
- v) Procedures and systems for security and confidentiality of information.
- vi) Understanding the importance of version control of information.

Unit PC10 Provide advice and support to maintain progress

Unit Commentary

This unit is concerned with the competence to provide advice and support to maintain the progress of project activities.

In order to be able to propose solutions to problems, it is necessary to be able to collate and analyse information from a range of sources and to appreciate the effect that operational and personal issues may have on both causes of problems and the acceptability of proposed solutions. Finally, it is necessary to be able to present proposals in a manner that enables agreement and support to be obtained.

You must be able to:

- a) Identify threats to the achievement of project progress and threats to budgets.
- b) Collate and verify information that is relevant to understanding the threats and develop proposed solutions.
- c) Seek and obtain the support of, and contributions from other team members in developing solutions.
- d) Obtain the agreement of your customers to your proposals.
- e) Provide advice and support, and make proposals, in ways that give encouragement and reinforce confidence.
- f) Provide advice and support that helps to maintain progress and to enable groups and individuals to work autonomously.

Scope:

1 Types of threat

- Technical
- Commercial
- Resource based
- Project performance based
- Quality
- Regulatory

2 Customers

- Own organisation project and line management
- Colleagues within own organisation
- Clients
- Those outside own organisation with whom you have working relations
- Stakeholders

3 Advice and support may involve

- Discussions
- Formal and informal presentations
- Written and verbal reports
- Hands on action
- Development activities

Specific knowledge required for this Unit:

- i) Analytical and review techniques to establish the nature of problems and their causes.
- ii) Means of developing problem solution options and reviewing the options developed by others.
- iii) Key project issues including technical, commercial and regulatory matters.
- iv) Presentation and reporting techniques.
- v) Means of demonstrating trust, giving encouragement and reinforcing confidence.
- vi) The relationships between own organisation and other parties involved in the project that may impinge upon the acceptability of your advice and support.
- vii) Communication techniques that will help to produce agreement and support.

Unit PC11 Manage the project control team — agree objectives with teams and individuals

Unit commentary

This Unit is concerned with the competence required to agree objectives, and project control work plans, with the team and individuals, so that they can achieve the organisation's objectives

In order to agree objectives and work plans which are specific, measurable, achievable, realistic, time bound and are consistent with the project's and organisation's overall objectives and policies, it will also be necessary to explain ways of working in sufficient detail for the team members to understand their personal objectives and responsibilities. There will be a need to update objectives and project control work plans in the light of progress and changes throughout the project.

You must be able to:

- a) Provide opportunities to the team members for them to help define their own objectives and work plans.
- b) Develop objectives and project control work plans, which are consistent with the project and organisation's objectives, and agree them with the team and its members.
- c) Ensure that objectives, work plans and schedules are realistic and achievable within organisational constraints.
- d) Ensure that objectives and work plans take account of individual's abilities and development needs.
- e) Explain the objectives and work plans in sufficient detail to achieve understanding, and at a level and pace appropriate to the individuals.
- f) Confirm team and individual understanding of, and commitment to, objectives and work plans at appropriate intervals.
- g) Provide advice and guidance on how to achieve objectives in sufficient detail and at times appropriate to the needs of the team and individuals.
- h) Update the objectives and work plans regularly, taking account of any individual, team and organisational changes.

Scope:

1 Work plans

- Short term
- Medium term
- Long term

2 Constraints

- Organisational objectives
- Organisational policies
- Resources
- Project operational requirements

3 Team member

- People for whom you have functional responsibility
- People for whom you have line responsibility

Specific knowledge required for this Unit:

- i) The importance of defining and communicating when planning objectives and work plans.
- ii) The importance of consulting with team members and achieving consensus on objectives and work plans.
- iii) How to encourage and enable team members to define their own work objectives and plans.
- iv) How to gain the commitment of team members to objectives and work plans.
- v) The types of issues on which your team members may need advice and guidance.
- vi) The organisational objectives and constraints, which have a bearing on objectives and work plans.
- vii) How to identify and devise objectives and work plans for the short, medium and long term.
- viii) The importance of agreeing objectives and work plans which are realistic and achievable.
- ix) How to match objectives and work plans with individual abilities and development needs.
- x) The importance of regularly updating objectives and work plans.
- xi) The difference between someone who is within the managers line management control and someone for whom the manager has functional responsibility, and the implications this difference may have for planning work.

Unit PC12 Manage the project control team - allocate work

Unit commentary

This Unit is concerned with the competence required to allocate project control work and make the best use of the team and its members, so that they can achieve the organisation's objectives

In order to allocate project control work to the team and individuals, it is necessary to decide with the team, how to distribute the tasks and responsibilities. The allocation should aim to ensure that it makes the best use of team members' abilities, and provide opportunities for them to learn and develop in their roles. The team members need to understand and be clear as to what is expected of them and have commitment to their work. Where resources are limited, work may have to be prioritised or resources reallocated.

You must be able to:

- a) Provide opportunities to the individuals and the team for them to help define how the work should be allocated.
- b) Arrange the project control work allocation so that it makes best use of the individual's capabilities and the team's resources.
- c) Ensure that allocated work takes account of individual's personal development needs and learning objectives.
- d) Agree the roles and responsibilities of the individual team members.
- e) Provide information on the allocation of work at a level and pace that is appropriate to the individuals concerned.
- f) Confirm that the individuals have a continuing understanding of, and commitment to, the allocation of work and their roles and responsibilities.
- g) When project control resources are insufficient, agree with the appropriate people the prioritisation of work activities and the re-allocation of the available resources.
- h) Agree changes in work allocations in a way that minimises the impact on time, cost and quality.

Scope:

1 Allocations:

- Normal working
- Emergencies

2 Information:

- Written
- Oral
- Graphical

3 Appropriate people:

- Team members
- Colleagues working at the same level as yourself
- Higher-level managers or sponsors
- Customers or suppliers

Specific knowledge required for this Unit:

- i) The importance of defining and communicating team responsibilities clearly.
- ii) How to communicate team and individual responsibilities clearly to those involved.
- iii) How to develop and present work plans using spoken, written and graphical means.
- iv) The importance of the effective allocation of work to the team's performance, and your role and responsibilities in relation to this.
- v) The factors that need to be considered when allocating work to individuals within the team.
- vi) How to match the allocation of work to learning needs and individual development plans.
- vii) How to prioritise and re-prioritise work allocations according to resource availability.
- viii) How changes to work allocations, and discussions around them, can impact on cost, time and quality.
- ix) Why team members should have the opportunity to contribute to how work allocations could be made.
- x) How to encourage team members to provide suggestions on the allocation of work, and increase commitment to the responsibilities.
- xi) Team objectives, and the organisational policies and values, all of which have a bearing on the allocation of work within the team.
- xii) The relevant people with whom negotiations on the sourcing and allocation of resources need to take place.
- xiii) How to relate the team and individual objectives to corporate and client objectives.

Unit PC13 Manage the continuing development of your personal and project control professional skills

Unit Commentary

This unit is concerned with your competence to manage your own personal and professional development. The process is a continuous one and involves:

- Being clear about your work objectives and your personal goals.
- Knowing the skills and knowledge you need and the extent to which you have what you need.
- Planning your development and acting on the plan.
- Evaluating the effectiveness of your development actions and identifying more effective ways to learn in the future.

Underpinning your competence must be a personal curiosity to learn and try out new ways and a willingness to share your learning experiences with others who may benefit.

You must be able to:

- a) Seek feedback on your current strengths and weaknesses.
- b) Identify your personal and professional development needs to match your present and anticipated future role requirements.
- c) Translate your needs into realistic development plans.
- d) Regularly review and gain the necessary approvals and authorisations in order to implement your plan.
- e) Develop your knowledge, understanding and skills in line with your plan and take advantage of any unplanned opportunities that may arise.
- f) Identify people and organisations that can provide support for your development.
- g) Have your progress regularly reviewed and use the feedback to continue your personal and professional development to meet the demands of changing situations.
- h) Share your learning with others who can benefit from it.

Scope:

1 Development plans

- Short term
- Longer term

2 Approvals and authorisations

- From line and/or project management
- In accordance with organisation procedures

3 Support for development

- Work colleagues
- Internal training providers
- External training providers
- Work experience opportunities — planned and unplanned

Specific knowledge required for this unit:

- i) The knowledge and skills required for your current and likely future roles.
- ii) Your own goals and aspirations.
- iii) The standards of performance expected of you.
- iv) Learning opportunities and resources available.
- v) People who can give you feedback on your performance and can review the progress you are making in relation to your plans.
- vi) Learning styles and methods and those that are most effective for you.
- vii) The requirements on you for continuing professional development stemming from your organisation, the business or industrial sector in which it operates and any professional body to which you belong.

Unit PC14 Develop yourself in the project control work role

Unit Commentary

This unit is concerned with your competence to progress your personal development and the development of your project control technical skills. The process is a continuous one and involves:

- Self assessment, and the assessment by others, of your competences.
- Developing an understanding of skills and knowledge you need and the extent to which you have what you need.
- Planning your development and acting on the plan.
- Regularly reviewing your progress and planning further developments.

Underpinning your development must be a personal curiosity to learn and try out new ways and a willingness to share your learning experiences with others who may benefit.

You must be able to:

- a) Assess your current competence and areas for development using relevant techniques and processes.
- b) Identify and plan development objectives that are realistic, achievable and related to the personal and business needs.
- c) Develop your knowledge, understanding and skills in line with your plan and take advantage of any unplanned opportunities that may arise.
- d) Review your performance regularly and use the outcome to plan future development activities.
- e) Seek and obtain constructive feedback and advice from others and use it to help you maintain and improve your performance.
- f) Agree with line and/or project management the time and other resources needed to help you achieve the development objectives.

Scope:

1 Development objectives

- Short term
- Longer term

2 Help to achieve development objectives (from)

- Work colleagues
- Internal training providers
- External training providers
- Work experience opportunities

Specific knowledge required for this unit:

- i) The skills and knowledge required for your current role.
- ii) The skills and knowledge required for your planned future roles.
- iii) Learning opportunities and resources available.
- iv) Working relationships.
- v) Reporting lines and procedures.
- vii) Development objective setting.
- viii) How personal development and skills development training progress assessments can be carried out.
- ix) Sources of guidance and advice on training and technical skills development that are available to you.

Unit PC15 Develop the skills of your project control team members

Unit Commentary

This unit is concerned with your competence to support the personal and professional development of project control practitioners working in a team under your supervision. You are expected to stimulate a learning culture and provide learning opportunities within your team and to encourage the curiosity to learn and try out new ways.

Learning opportunities should include experiencing new roles and responsibilities, instruction, coaching and mentoring.

You must be able to:

- a) Provide colleagues with constructive feedback on their performance in the team.
- b) Explore methods of improving performance with them.
- c) Identify and arrange suitable learning and training opportunities to enable them to improve their performance.
- d) Share your own skills and experience with your colleagues and encourage them to share skills experiences amongst each other.
- e) Support colleagues to achieve the experience and skills to meet the job requirements.
- f) Regularly review their development needs and progress providing feedback to support further learning and development.
- g) Ensure that team members development and training records are maintained in an up to date form.

Scope:

1 Learning opportunities

- New roles
- New responsibilities
- Instruction
- Coaching
- Mentoring

2 Training opportunities

- From work colleagues
- Internal training providers
- External training providers

3 Job requirements

- Needed by the organisation
- Specific to the project

4 Feedback

- Formal
- Informal

Specific knowledge required for this unit:

- i) The knowledge and skills required of your team members to meet the control requirements of the project.
- ii) The individual goals and aspirations of your team members.
- iii) The expected individual standards of performance.
- iv) Learning opportunities and resources available.
- v) Organisation's processes and procedures for appraising and reporting individual performance and defining development needs.
- vi) Learning styles and methods.

Unit PC16 Develop and maintain effective working relationships

Unit Commentary

This unit is concerned with your competence to develop and maintain productive and effective working relationships with colleagues within and without your own organisation. The objective of these relationships is to assist you in delivering your project control work on projects to the benefit of your organisation.

Colleagues are any of those with whom you have a working relationship regardless of status or position and regardless of the organisation of which they are a part.

You must be able to:

- a) Establish relationships with all colleagues who are relevant to the project control work being undertaken.
- b) Make those relationships productive in delivering results for the project and your organisation.
- c) Recognise and respect the roles and responsibilities of colleagues.
- d) Understand the priorities, expectations and authority of colleagues and incorporate that understanding into decisions and actions.
- e) Keep your promises, honour commitments made and make time to support others.
- f) Resolve conflicts of interest and disagreements in ways that minimise damage to the project and your organisation.
- g) Exchange information to support the effective implementation of the project, within the approved procedures and practices of the project team and your organisation.

Scope:

1 Colleagues (within)

- The project team
- Own organisation
- Client s organisation
- Contractor, supplier and other external organisations

Specific knowledge required for this unit:

- i) The technical and commercial requirements of the project that influence the behaviour and motivations of colleagues.
- ii) Standards of behaviour and performance expected by the project and your organisation.
- iii) Decision making processes and responsibilities within the project team.
- iv) Work roles and responsibilities of colleagues.
- v) Management responsibilities within the project team and within your organisation.
- vi) Techniques that can be used to help resolve conflicts.
- vii) Techniques that can be used to help select and build effective teams.

Unit PC17 Contribute to effective project working relationships

Unit Commentary

This unit is concerned with your competence to contribute to effective working relationships within the project team and with colleagues within your own and other organisations relevant to the implementation of the project. The objective of these relationships is to assist you in delivering your project control work on projects to the benefit of your organisation.

Colleagues are any of those with whom you have a working relationship regardless of status or position and regardless of the organisation of which they are a part.

You must be able to:

- a) Establish and maintain productive working relationships with colleagues.
- b) Deal with disagreements in an amicable and constructive way so that good relationships are maintained in the interests of achieving effective project control.
- c) Keep others informed about work plans or activities which affect them.
- d) Seek assistance from others in a polite and courteous way without causing undue disruption to normal work activities.
- e) Respond in a timely and positive way when others ask for help or information.

Scope:

1 Colleagues (within)

- The project team
- Own organisation
- Client s organisation
- Subcontractor, supplier and other external organisations

Specific knowledge required for this unit

- i) How to go about creating and maintaining working relationships.
- ii) Problems that can have negative affect on the effectiveness of working relationships.
- iii) Lines of communication within the project and between participants.
- iv) The responsibilities and authority of project participants.
- vi) The groups and individuals with whom you need to maintain good working relationships.

Unit PC18 Observe and apply professional ethics and values

Unit Commentary

This unit is concerned with your competence to observe and apply professional ethics and values in the execution of your project control activities. The objective of your actions is to contribute to the maintenance of the integrity of the organisation of which you are a part and its standing with its customers, suppliers and business associates.

You must be able to:

- a) Keep yourself informed about the professional ethics that should be applied.
- b) Incorporate the application of professional ethics and values into your project control activities.
- c) Be aware of the professional codes of conduct, standards, regulations and guidelines that are relevant to project control activities.
- d) Maintain a duty of care towards clients and customers.
- e) Identify any conflicts of interest and report them to those responsible for resolving them.
- f) Identify and report any potential or actual cases of professional malpractice to those responsible for taking the appropriate action.

Scope:

1 Application of professional ethics

- As defined by legislation and regulation
- As defined within your organisation's practices and procedures

2 Those responsible

- Project management
- Line management

Specific knowledge required for this unit

- i) Authoritative sources of information on professional ethics and values.
- ii) Where to obtain information on professional codes of conduct, standards, regulations and guidelines relevant to project control activities.
- iii) What constitutes a duty of care.
- iv) What types of conflict of interest and professional malpractice could occur and how should they be resolved.
- v) How should you obtain and protect information from clients and suppliers.
- vi) In the event of uncertainty on questions of applying professional ethics and values, who you can contact within your organisation for guidance and advice.
- vii) Health, safety and environmental regulations, codes and practices applicable to your organisation and the business and industrial sectors within which it operates.
- viii) Legislative and regulatory frameworks within which your organisation carries out its business.
- ix) How the commercial confidentiality of information supplied to, and held within, the organisation is safeguarded.

Unit PC19 Plan and implement project control operational developments

Unit Commentary

This Unit is concerned with the competence to plan and implement project control operational developments. The need for developments to improve the effectiveness of project control operations can arise at any time and apply to any project scope which can range from a short duration study of options through to the long term ownership of a facility or operation. And all project control practitioners are expected to participate actively in the continuous improvement process .

However, the completion of a project, and the formal review of performance and data that may take place at that time, is a situation that has much potential merit as a source of information and inspiration to plan and implement developments aimed at improving project control operations.

You must be able to:

- a) Establish, and gain approval for, plans and strategies that define the way forward towards achieving the identified improvements.
- b) Realistically assess the risks and benefits associated with the plans and strategies and identify contingency plans.
- c) Methods for monitoring and evaluating progress are established and relate to agreed goals and priorities.
- d) Identify, address and agree the training needs associated with implementing the changes.
- e) Analyse and resolve problems and barriers to implementing the results of the developments as they arise.
- f) Communicate progress regularly to interested parties.
- g) Test and prove that the changes and developments are effective and meet the needs of the organisation.

Scope:

1 Identified improvements

- In working methods
- IT and manual systems
- Professional skills and knowledge
- Performance and resource norms

2 Contingency plans

- Resources
- Programmes
- Use of external specialists
- Training

3 Interested parties

- Project management
- Line management
- Customers and clients
- Project control practitioners

Specific knowledge required for this Unit:

- i) Internal and external sources of specialist advice that can contribute to developing and implementing changes and improvements.
- ii) Organisation s resources that can contribute to developing and implementing changes and improvements.
- iii) Customer expectations.
- iv) Training needs analysis and the available training resources within and without the organisation.
- v) Organisation s communication channels, both formal and informal.
- vi) Funding sources and budgetary restraints.
- vii) Methods of planning and progress monitoring applicable to the implementation of change.
- viii) Risk analysis and management as applied to operational change and development programmes.
- ix) Methods that can be used to help with making changes in an team s working practices.
- x) How you can recognise and use different decision making processes and styles.
- xi) How data can be managed to enable it to be available for use on other projects.

Unit PC20 Determine the requirements for project control

Unit Commentary

This Unit is concerned with the competence required to determine the requirements for project control including developing the objectives and specifying the functions. This will include the identification and assessment of threats, constraints and opportunities impinging on the achievement of satisfactory project implementation. The competence also includes that required to carry out the activities necessary to meet the operational requirements of the project.

You must be able to:

- a) Source sufficient input information to develop a clear understanding of the scope and operational objectives for implementation of the project.
- b) Instigate action to clarify and verify the requirements where the information is insufficient.
- c) Identify feasible options for carrying out the project control activity that are compatible with the achievement of the implementation objectives.
- d) Identify areas of risk and opportunities for reducing risk and improving project control.
- e) Develop, and make clear, the criteria which enable the preferred means of carrying out the project control activities to be selected from the available alternatives.
- f) Identify and make use of specialist advice where the impact of a project operational factor cannot be adequately assessed by self.
- g) Obtain the contribution of customers to decisions in a manner likely to encourage their continuing support.
- h) Define the methods, practices, procedures and systems that are to be used to meet the project control requirements.
- i) Identify and describe opportunities for innovation in the project control implementation in a manner that enables the proposals to be realised in practice.

Scope:

1 Input information

- Objectives for the project control activity
- Factors affecting the achievement of project control objectives

2 Means of carrying out the activity

- Resourcing
- Source of funds
- Timescale
- Location
- Project control technology

3 Criteria to select means of implementation

- Risk, uncertainty or benefits
- Time
- Cost
- Inter-related projects
- The overall business requirements

4 Customers

- Project Manager
- Client
- Colleagues in different technical disciplines
- Supply chain
- Project team members

Specific knowledge required for this Unit:

- i) Means of assessing adequacy of information.
- ii) Significance of outside influences on objectives including legislative and regulatory requirements.
- iii) Factors peculiar to or of particular significance to the industry.
- iv) Industrial relations scene.
- v) The business environment and related project activities.
- vi) Risk management techniques.
- viii) Techniques for defining measurable outcomes e.g. key performance indicators, project milestones and work package completion.
- ix) Reporting requirements.
- x) The organisation s procedures and systems that are available as source material.
- xi) Communication and presentation techniques that can be used to convey the essential features of your proposals.
- xii) Potential influences of the supply chain on project control requirements.

Unit PC21 Estimate and specify financial resources

Unit Commentary

This Unit is concerned with the competence required to estimate and specify the financial resources required to achieve the objectives of projects which may be at stages of definition ranging from conceptual through to fully detailed.

This will include the need to predict and specify resources needed for all the component activities and to estimate total costs. In the case of continuing activities, such as operations and maintenance, a given period of time may be the basis of the prediction, specification and estimates.

You must be able to:

- a) Apply methods of estimating that conform to good practice and match the estimate purpose, the accuracy required and the quality of definition available.
- b) Verify that the specified activities and resources to be deployed meet the requirements of the project.
- c) Estimate the financial resources required for activities to the required accuracy.
- d) Ensure that the bases and assumptions on which estimates are based are clearly stated.
- e) Estimate cash flow requirements and the relevant project timescales to the required level of accuracy and match to the project programme.
- f) Agree the estimated cash flows with the customer.
- g) Phase project expenditure to meet the expected project and investment timetables.
- h) Establish the requirements for any allowances and contingencies and justify their basis.
- i) Accurately assess the scope and consequences of changes.
- j) Prepare a report on budgetary requirements, which is sufficiently detailed and accurate to be acceptable as a basis for calculating financial options.
- k) Explain to stakeholders how the estimated resources meet the operational requirements of the project.

Scope:

1 Resources

- People
- Materials and equipment
- Finance
- Data and information systems

2 Degree of accuracy

- Appropriate to the degree of uncertainty identified
- Appropriate to the level of information and technology reliability, complexity and maturity
- Sufficient for programming or scheduling
- Sufficient for acquisition of resources
- Sufficient for budgetary control and approval levels

3 Stakeholders

- Clients or customers
- Key groups interested in the project outcomes
- Key groups affected by the project outcomes

4 Contingencies and allowances

- For component activities
- For critical and uncertain factors
- Escalation
- Overall for total activity
- Based on the risk profile

Specific knowledge required for this Unit:

- i) Methods of determining time, cost and quality relationships and their influence on estimates.
- ii) Direct costs, indirect costs, allowances and contingencies.
- iii) Risk identification and management techniques.
- vi) Methods of increasing the accuracy of costings and estimates.
- v) Sources of information including benchmarks and activity norms.
- vi) Estimating techniques including deterministic, probabilistic and parametric.
- vii) Whole life costing.
- viii) Means of specifying resources in the four categories of financial, human, materials and information.
- ix) Methods of estimating the costs of continuing and repeated activities such as are found in operations and maintenance projects.
- x) Economic evaluation including the effects of escalation, taxation, market conditions and local working conditions.
- xi) The effects of common contract strategies, such as PFI, Risk & Reward, Lump Sum, EPC and Re-imbursable, on the content of estimates.
- xii) The impact of legislative and regulatory requirements on establishing financial resources.
- xiii) Means of presenting the results of your work to customers and stakeholders.
- ix) Version control in estimate development.

Unit PC22 Develop the project programme

Unit commentary

This Unit is concerned with the competence required to develop outline programmes or schedules required to achieve the defined project objectives.

Projects may be at any stage of definition ranging from conceptual through to being fully detailed.

This will include the need to predict and specify timescales needed for the component activities and to estimate overall project programme and key milestones. In the case of continuing activities, such as operations and maintenance, a given period of time may be the basis of the programme, which may contain a number of repeated activities.

You must be able to:

- a) Verify that the specified activities and resources to be deployed meet the requirements of the project.
- b) Verify that the methods used for developing the outline programme conform to best practice and that its content, form and level of detail match the defined purpose and the quality of information available.
- c) Develop the programme to illustrate key dates and critical activities in meeting the operational requirements of the project.
- d) Identify and verify any contingencies and the basis for them.
- e) Verify that the resources required for activities, that form the basis for programmes, are estimated and specified accurately.
- f) Prepare programmes to the agreed level of accuracy and detail.
- g) Ensure that any assumptions on which programmes are based are clearly stated.
- h) Analyse opportunities for potential improvement in project operations that may give rise to reduced programme durations.
- i) Accurately assess the scope and consequences of changes.
- j) Explain to stakeholders how the programme meets the operational requirements of the project.

Scope:

1 Resources

- People
- Materials and equipment
- Finance
- Data and information systems

2 Level of accuracy

- Appropriate to the degree of risk identified
- Appropriate to the level of information and technology reliability and maturity
- Related to requirements for control of resources
- Sufficient for programming or scheduling
- Compliance with project objectives and impinging factors
- Appropriate to the management of interfaces

3 Stakeholders

- Clients or customers
- Key groups interested in the project outcomes
- Key groups affected by the project outcomes

4 Methods used

- Estimated or measured timescales
- Estimated or measured resource requirements
- In-house or commercial planning systems
- In house or externally supplied activity sequences

5 Contingencies

- For component activities
- For critical and uncertain factors
- Overall for total activity
- Based on risk profile

Specific knowledge required for this Unit:

- i) Methods of determining time, cost and quality relationships and their influence on the accuracy of the total schedule.
- ii) Principles and processes for identifying work sequences, estimating activity times and creating networks.
- iii) Determination and understanding of critical paths.
- iv) Concept and application of float.
- v) Risk identification and management techniques.
- vi) Sources of information.
- vii) Application of appropriate software.
- viii) Styles and formats for presenting planning information.
- ix) The effects of common contract strategies, such as PFI, Risk & Reward, Lump Sum, EPC and Re-imbursable, on the content and presentation of programmes and schedules.
- x) Whole life activities and work sequences.
- xi) The impact of legislative and regulatory requirements on establishing programmes and activity networks.
- xii) Means of presenting the results of your work to customers and stakeholders.
- xiii) The hierarchy of programmes.
- xiv) Version control in programme development.

Unit PC23 Establish project procurement requirements

Unit Commentary

This Unit is concerned with the competence to establish the project procurement requirements. The competence includes the identification of potential sources of supply, recommending effective means of procurement and determining the programme of key procurement events.

You must be able to:

- a) Develop a procurement programme that meets the project operational requirements.
- b) Identify, within the programme, the key procurement stages, approval or other procurement gates, and the lead times for ordering and receiving the resources.
- c) Assess the effects that the various categories of providers of resources have on the procurement programme.
- d) Identify inconsistencies and clashes between the procurement programme and the overall project programme and make recommendations for resolving the problems.
- e) Monitor the procurement programme and identify modifications to suit changes in circumstances as the project develops.

Scope:

1 Stages

- Enquiry
- Tender
- Evaluation
- Approvals
- Order
- Supply

2 Resources

- Internal or external to the organisation
- Equipment and materials
- Labour, plant and supplies
- Financial
- Services
- Information and data

3 Categories of providers (may include)

- Principal contractors
- Sub/works/trade contractors
- Suppliers
- Consultants
- Agents
- Clients and partners
- Sources of finance

Specific knowledge required for this Unit:

- i) Type and sources of information needed to develop a procurement programme.
- ii) Procurement stages and approval gates.
- iii) Areas of perceived risks to the procurement programme and the associated contingency planning.
- iv) Means of integrating the procurement requirements into the project programme.
- v) The effects that the categories of providers will have on the procurement programme.
- vi) Bases for, and types of estimates.
- vii) Forms of contract and commercial terms and conditions.
- viii) Legal and regulatory frameworks related to procurement.
- ix) Forms and types of resource specifications and the degree of detail required.
- x) Means of presenting the results of your work to customers and stakeholders.

Unit PC24 Prepare project cost estimates

Unit Commentary

This Unit is concerned with the competence required to prepare cost estimates for defined scopes of project work.

This includes the competence need to determine the resources needed for the component activities and to estimate total costs. In the case of continuing activities, such as operations and maintenance, a given period of time may be the basis of the cost estimates.

You must be able to:

- a) Use specified methods for preparing estimates.
- b) Estimate the financial resources required for activities to the required accuracy.
- c) Clearly state any assumptions on which estimates are based.
- d) Estimate cash flows and the relevant project timescales to the required level of accuracy.
- e) Phase project expenditure to meet the expected project timetables.
- f) Identify contingencies and allowances and the basis for them.
- g) Assess the scope and consequences of changes.
- h) Explain how the estimated resources meet the project requirements.

Scope:

1 Resources

- People
- Materials and equipment
- Finance
- Data and information systems

2 Required accuracy

- Appropriate to the degree of risk identified
- Appropriate to the level of information and technology reliability and maturity
- Sufficient for programming or scheduling
- Sufficient for acquisition of resources
- Sufficient for budgetary control and approval levels

3 Methods of estimating resources

- Calculated or measured
- Comparative and scaled
- In-house or commercial databases
- Liaison with, and using, specialist advice
- Data from potential suppliers and contractors

4 Contingencies and allowances

- For component activities
- For critical and uncertain factors
- Escalation
- Overall for total activity
- Based on the risk profile

Specific knowledge required for this Unit:

- i) Direct costs, indirect costs, allowances and contingencies.
- ii) Risk identification and management techniques.
- iii) Sources of information.
- iv) Examples of good current practice in estimating.
- v) Whole life costing.
- vi) Means of specifying resources.
- vii) Application of appropriate software.
- viii) Styles and formats for presenting information.

Unit PC25 Prepare the project programme

Unit Commentary

This Unit is concerned with the competence required to prepare an outline project programme meeting a defined set of project requirements.

This includes the competence to determine the timescales needed for the component activities and to determine the overall project programme. In the case of continuing activities, such as operations and maintenance, a given period of time may be the basis of the programme, which may contain a number of repeated activities.

You must be able to:

- a) Use the specified methods and resources to develop the outline programme.
- b) Develop the programme to illustrate key dates and critical activities in meeting the defined requirements of the project.
- c) Identify any contingencies and the basis for them.
- d) Prepare programmes to the agreed level of accuracy and detail.
- e) Ensure that any assumptions on which programmes are based are clearly stated.
- f) Incorporate agreed improvements in project operations that may give rise to reduced programme durations.
- g) Assess the scope and consequences of changes.
- h) Explain how the programme meets the requirements of the project.

Scope:

1 Resources

- People
- Materials and equipment
- Finance
- Data and information systems

2 Level of accuracy

- Appropriate to the degree of risk identified
- Appropriate to the level of information and technology reliability and maturity
- Related to requirements for control of resources
- Sufficient for programming or scheduling
- Compliance with project objectives and impinging factors

3 Methods used

- Estimated or measured timescales
- Estimated or measured resource requirements
- In-house or commercial planning systems
- In house or externally supplied activity sequences
- Liaison with, and using, specialist advice

Specific knowledge required for this Unit:

- i) Methods for producing project logic networks.
- ii) Determination and understanding of critical paths.
- iii) Concept and application of float.
- iv) Sources of information including information on norms.
- v) Application of appropriate software.
- vi) Styles and formats for presenting planning information.
- vii) Principles and processes for identifying work sequences and for estimating activity timescales.
- viii) The hierarchy of programmes.
- ix) Version control in programme development.

Unit PC26 Plan the project procurement activities

Unit Commentary

This Unit is concerned with the competence to plan the project procurement activities to meet a set of defined project requirements. The competence includes the use of defined potential sources of supply and matching the programme of key procurement events with the overall project programme.

You must be able to:

- a) Extract information from project programmes as a basis for planning the procurement activities.
- b) Establish the key procurement stages, approval or other procurement gates, and the lead times for ordering and receiving the resources as inputs to the plan of procurement activities.
- c) Use information on the delivery performance of potential providers within the procurement plan.
- d) Work with project team members to resolve problems of clashes between the procurement and project programme.
- e) Monitor procurement progress and advise the project team members of changes required as the project develops.

Scope:

1 Stages

- Enquiry
- Tender
- Evaluation
- Approvals
- Order
- Supply and delivery

2 Resources

- Internal or external to the organisation
- Equipment and materials
- Labour, plant and supplies
- Financial
- Services
- Information and data

3 Categories of providers (may include)

- Principal contractors
- Sub/works/trade contractors
- Suppliers
- Consultants
- Agents
- Clients and partners
- Sources of finance

Specific knowledge required for this Unit:

- i) Type and sources of information needed to develop a procurement programme.
- ii) Procurement stages and approval gates.
- iii) Means of integrating the procurement requirements into the project programme.
- iv) The effects that the categories of providers will have on the procurement programme.
- v) Types of commercial terms and conditions.

Unit PC27 Establish procedures, methods and systems

Unit commentary

This Unit is concerned with the competence required to ensure that appropriate systems and procedures are in place for the achievement of the necessary control of the project. Effective project execution requires that procedures, methods and systems are in place for the estimating, cost control, planning and commercial support functions. Implementation of the project control procedures, methods and systems needs demonstrable competence in effective communication.

You must be able to:

- a) Review existing systems and procedures to verify that they are applicable for the project control activities, and whether or not they can be used without modification.
- b) Specify the requirements for all new, or modified, systems, methods and procedures and obtain the agreement to the specifications from those responsible for implementing and using the systems, methods and procedures.
- c) Clearly define the authorities and responsibilities for all the activities contained within the systems, methods and procedures.
- d) Manage, or carry out, the necessary developments to put in place the required systems, methods and procedures.
- e) Discuss, present and explain the systems, methods and procedures, and the authorities and responsibilities contained within them, to the interested parties.

Scope:

1 Procedures, methods and systems

- Project planning
- Progress monitoring
- Project estimating
- Project cost control
- Risk and opportunity management
- Change control
- Contractual and commercial
- Information and data handling systems
- Liaison with management and clients

2 Interested parties

- Individuals within the project organisation
- Those responsible for implementing aspects of the project
- Other relevant authorities

Specific knowledge required for this Unit

- i) Client and project reporting requirements.
- ii) Relevant authority and accountability of those to be involved in implementing the project.
- iii) Risk and opportunity management.
- iv) Change control and variance reporting procedures, systems and methods.
- v) Contractual responsibilities and liabilities of the parties involved in the project.
- vi) Procedures, methods and systems which apply to financial control.
- vii) Procedures, methods and systems which apply to resource control.
- viii) Project success criteria and key performance indicators.
- ix) The organisation's Quality Management System and the associated procedures and working methods.
- x) Means of presenting the results of your work to customers and stakeholders.
- xi) The relationship between the organisation's Quality Management System (QMS) and the quality assurance systems established for a project

Unit PC28 Apply procedures, methods and systems

Unit commentary

This Unit is concerned with the competence required to apply the procedures, methods and systems put in place for the project estimating, cost control, planning and commercial support functions. This Unit is also concerned with the competence to support the access to, and use of these procedures, methods and systems by all those required to access and use them in their work on the project.

You must be able to:

- a) Identify the systems, methods and procedures necessary for the effective control of the project.
- b) Ensure that adequate instructions are available to users of the project control systems.
- c) Assess any training needs to enable the systems, methods and procedures to be used effectively.
- d) Review the application of the project control systems, methods and procedures and recommend any necessary changes.
- e) Support the embedding of the project control systems, methods and procedures within the operations of the project team, including advising users and other interested parties on their roles and responsibilities.
- f) Maintain records of the use of systems, methods and procedures to meet the needs of quality audits.

Scope:

1 Procedures, methods and systems

- Project planning
- Progress monitoring
- Project estimating
- Project cost control
- Risk and opportunity management
- Change control
- Contractual
- Information systems
- Liaison with management and clients

2 Interested parties

- Individuals within the project organisation
- Those responsible for implementing aspects of the project
- Other relevant authorities

Specific knowledge required for this Unit

- i) Project reporting requirements.
- ii) Relevant authority and accountability of stakeholders and those to be involved in implementing the project.
- iii) Operating procedures and practices for the project control systems.
- iv) Change control and variance reporting procedures.
- v) Contractual support procedures.
- vi) Procedures which apply to financial control.
- vii) Procedures which apply to resource control.
- viii) Quality management systems.
- ix) Limitations of own authority for making changes to project systems, methods and procedures.

Unit PC29 Develop commercial control procedures

Unit commentary

This Unit is concerned with the competence required to develop objectives and specify functions for commercial control of projects. This will include the identification and assessment of requirements for the effective letting of contracts for the procurement of materials and engagement of contractors. This requires the establishment of workable procedures for management of these contracts, such that the objectives of the implementation of the project are successfully achieved.

You must be able to:

- a) Determine, and agree, the appropriate procurement programmes and commercial requirements, for the acquisition of resources for the project, with the customer.
- b) Identify appropriate systems and procedures for the aspects of commercial control requiring them.
- c) Review existing systems and procedures to verify that they are applicable to commercial control activities, and whether or not they can be used without modification.
- d) Amend the procedures as necessary to facilitate the safety, time and cost effectiveness of commercial control activities.
- e) Clearly define the resources, authority and responsibilities for all commercial activities.
- f) Discuss with, and explain to, interested parties the proposed systems procedures and responsibilities.

Scope:

1 Commercial requirements

- Contractor warranties
- Performance bonds
- Parent company guarantees
- Collateral warranties
- Pre-qualification of bidders
- Regulations

2 Interested parties

- Individuals within the organisation
- Those responsible for implementing aspects of the project
- Other relevant authorities

3 Resources

- Information (including documents and drawings)
- Labour, plant and equipment
- Materials and equipment
- Services
- Finance

Specific knowledge required for this Unit:

- i) How to match the specific commercial process operational requirements with the organisation s procedures to determine changes to meet the particular project needs.
- ii) Progress and monitoring of the procurement programme.
- iii) The identification and control of inconsistencies and unacceptable variations to the procurement programme.
- iv) Document control and security of information.
- v) Contract or supply, variation control requirements.
- vi) Quality management systems.
- vii) Relevant authority and accountability of stakeholders and those to be involved in implementing the project.
- viii) The impact of legislative and regulatory requirements on the commercial control procedures.
- ix) Means of presenting the results of your work to customers and stakeholders.

Unit PC30 Develop the work breakdown and coding structures

Unit Commentary

This Unit is concerned with the competence required to develop project work breakdown and coding structures, in order to manage the development and progress of the project.

The work breakdown and coding structures enable a project to be divided by level into discrete groups of activities, cost, materials, information etc. for estimating, planning, cost control, purchasing and commercial control purposes.

A schedule defines the scope of the work to be undertaken and timetable for a project. It is a scheme that has been planned to include all the activities that are to be resourced, scheduled and undertaken over a period of time to achieve the required project outcomes.

You must be able to:

- a) Verify that you have sufficient information on the project to prepare an appropriate work breakdown and other structures.
- b) Derive the activities required to achieve the project outcomes, to the level of accuracy and detail needed for scheduling and resourcing.
- c) Produce project work breakdown and coding structures which meet the specified requirements for the project scope.
- d) Present the structures in formats suitable for facilitating the project programme, cost control, procurement and implementation.
- e) Produce structures which are sufficiently flexible to accommodate all the project activities and changes in the programme.
- f) Agree the work breakdown and coding structures with the customer prior to implementation.

Scope:

1 Information

- Project brief, objectives, expectations
- Specification of requirements
- Start and finish points
- Internal or external constraints

2 Scope (which may be)

- Single project
- Combination of projects

3 Activities

- Project phases
- Project components
- Project dependencies

4 Work breakdown and coding structures (which may be):

- Product based
- Task or function based
- Cost-centre based
- Client defined
- Organisation based
- Aligned across projects and organisations

Specific knowledge required for this Unit:

- i) Principles and processes of developing project work breakdown and coding structures.
- ii) Relevant database and other software for holding and applying project breakdown and coding structures.
- iii) Methods of defining activities and the advantages and disadvantages associated with them.
- iv) Levels of aggregation and disaggregation in a work breakdown structure.
- v) How the breakdown and coding structures can be used.
- vi) Styles and formats for presenting project breakdown and coding structures.
- v) Relationship between project breakdown structures and codes of accounts.

Unit PC31 Establish project control budgets

Unit Commentary

This Unit is concerned with the competence required to establish the project control budgets and specify the resources required to achieve the defined objectives.

The competencies include the development and application of estimates to meet the budgetary requirements within a programme.

You must be able to:

- a) Verify that the specified activities and resources meet the requirements of the project.
- b) Use the cost estimates, the project programmes and schedules and the work breakdown structure as key sources of information for the development of the project control budgets.
- c) Verify that resources required for activities are estimated and specified accurately.
- d) Ensure that any assumptions on which the control budgets are based are clearly stated.
- e) Identify and verify contingencies and allowances and the basis for them.
- f) Accurately assess the scope and consequences of changes where they involve adjustments to the project success factors.
- g) Explain to stakeholders how the budgeted resources meet the project operational requirements.
- h) Obtain agreement from stakeholder for the forecast cash flow requirements.

Scope:

1 Resources

- People
- Materials and equipment
- Finance
- Data and information systems

2 Degree of accuracy

- Sufficient for establishing resources
- Sufficient for acquisition of resources
- Sufficient for organisation and project budgeting

3 Stakeholders

- Clients or customers
- Key groups interested in the project outcomes
- Key groups affected by the project outcome

4 Contingency and allowances

- For component activities
- For critical and uncertain factors
- From assessment of risks to project outcomes

Specific knowledge required for this Unit:

- i) Classes of estimate — their purposes and limitations.
- ii) Methods of determining time, cost and quality relationships and their influence on the accuracy of the total estimate.
- iii) Direct costs, indirect costs or allowances.
- iv) Methods of increasing accuracy of costing and estimates.
- v) Sources of information.
- vi) Methods of projecting timescales and cash flow requirements.
- vii) Examples of good current practice in estimating.
- viii) Means of specifying resources in the categories of: finance, human resources, materials, facilities and information.
- ix) Application of appropriate software.
- x) Project planning and scheduling systems and methods.
- xi) Styles and formats for presenting information.
- xii) Understanding of budget version control.

Unit PC32 Establish project control programmes and schedules

Unit Commentary

This Unit is concerned with the competence to establish the control programmes and schedules for projects.

A programme defines the scope of a number of major areas of activity that are to be resourced and undertaken.

A schedule defines the scope of the work to be undertaken within major areas of activity for the project. It includes all the activities that are to be resourced and undertaken over a period of time to achieve the required project outcomes.

You must be able to:

- a) Determine with stakeholders the level of detail and accuracy required for the control programme or schedules.
- b) Specify and verify the activities needed to meet the requirements of the project control programme or schedules.
- c) Ensure that all the essential work activities have been identified in sufficient detail to produce a project control programme or schedule.
- d) Use the outline programmes or schedules and the work breakdown structure as key sources of information for the development of the project control programmes or schedules.
- e) Verify that resources required for component activities are estimated and specified accurately and that sufficient information is provided.
- f) Ensure that any assumptions on which the control programmes or schedules are based are clearly stated.
- g) Identify and verify contingencies and allowances and the basis for them.
- h) Accurately assess the scope and consequences of changes where they involve adjustments to the project success factors.
- i) Check the projected timescales are consistent with achieving a successful project outcome.
- j) Explain to stakeholders how the control programmes or schedules meet the project operational requirements.
- k) Present the programme or schedule in a manner that will gain agreement of stakeholders and ensure their continuing support.

Scope:

1 Degrees of accuracy:

- Related to requirements for control of resources
- Compliance with project objectives and impinging factors
- Sufficient for programming or scheduling

2 Stakeholders:

- Clients or customers
- Key groups interested in the project outcomes
- Key group affected by the project outcomes

3 Presentation (which may include)

- Charts
- Networks
- Schedules

4 Contingencies and allowances

- For component activities
- For critical and uncertain factors (risks)

5 Activities

- People, materials, equipment and facilities
- Commercial
- Finance
- Data and information systems

Specific knowledge required for this Unit:

- i) Methods of preparing, structuring and presenting programmes and schedules.
- ii) Dependencies and restraints between starts and ends of activities.
- iii) Determination and understanding of critical paths.
- iv) Dealing with uncertainty.
- v) Scheduling of resources determined by demand.
- vi) Significance of terms events, activities, dummy activities, float.
- vii) Use of work activity and earned value analysis techniques.
- viii) Project expenditure control and reporting methods and systems.
- ix) Application of appropriate software.
- x) Understanding of programme and schedule version control.

Unit PC33 Prepare project control budgets

Unit commentary

This Unit is concerned with the competence required to prepare project control budgets, from established estimates of resources, to meet defined project requirements.

This will include for the competence to assist in the evaluation of budgetary requirements and implications within a programme.

You must be able to:

- a) Check that resources required for activities are estimated and specified accurately.
- b) Make use of the cost estimates, the project programmes and schedules and the work breakdown structure as key sources of information for the preparation of the project control budgets.
- c) State any assumptions made in preparing the control budgets.
- d) Create control budgets with the required degree of accuracy.
- e) Recommend where contingencies and allowances may be needed within the budgets.
- f) Accurately assess the scope and consequences of changes.
- g) Prepare the project cash flow requirements for agreement by the customer.

Scope:

1 Resources

- People
- Materials, equipment and facilities
- Finance
- Data and information

2 Degree of accuracy

- Sufficient for establishing resources
- Sufficient for acquisition of resources

3 Contingency and allowances

- For component activities
- For critical and uncertain factors
- From assessment of risks to project outcomes

Specific knowledge required for this Unit:

- i) Order of magnitude estimating — purposes and limitations.
- ii) Methods of determining time, cost or quality relationships and their influence on the accuracy of the total estimate.
- iii) Direct costs, indirect costs or allowances.
- iv) Methods of increasing accuracy of costing and estimates.
- v) Sources of information.
- vi) Methods of projecting timescales and cash flow requirements.
- vii) Examples of good current practice in estimating.
- viii) Means of specifying resources in the categories of: finance, human resources, materials, facilities and information.
- ix) Application of appropriate software.
- x) Styles and formats for presenting information.

Unit PC34 Prepare project control programmes and schedules

Unit Commentary

This Unit is concerned with the competence to prepare control programmes and schedules, from established outline plans, to meet defined project requirements.

A programme defines the scope of a number of major areas of activity that are to be resourced, scheduled or undertaken.

A schedule defines the scope of the work to be undertaken within major areas of activity for the project. It includes all the activities that are to be resourced, scheduled or undertaken over a period of time to achieve the required project outcomes.

You must be able to:

- a) Check that all the essential work activities have been identified in sufficient detail to serve as a basis for developing the project programme or schedules.
- b) Make use of the outline programmes or schedules and the work breakdown structure as key sources of information for the preparation of the project control programmes or schedules.
- c) Use the resources specified for component activities to create the data for preparing the resourced programmes and schedules.
- d) State clearly any assumptions made in preparing the control programmes or schedules.
- e) Create control programmes or schedules with the required degree of accuracy.
- f) Recommend where contingencies may be needed within the control programmes or schedules.
- g) Accurately assess the scope and consequences of change.
- h) Check that the developed timescales are consistent with achieving a successful project outcome.
- i) Support the presentation of the control programmes or schedules to stakeholders.

Scope:

1 Degrees of accuracy:

- Related to requirements for control of resources
- Compliance with project objectives and impinging factors
- Sufficient for programming or scheduling

2 Stakeholders:

- Clients or customers
- Key groups interested in the project outcomes
- Key group affected by the project outcomes

3 Presentation (which may include):

- Charts
- Networks
- Schedules

Specific knowledge required for this Unit:

- i) Methods of preparing and structuring programmes and schedules.
- ii) Dependencies and restraints between starts and ends of activities.
- iii) Determination and understanding of critical paths.
- iv) Dealing with uncertainty.
- v) Scheduling of resources determined by demand.
- vi) Significance of terms events, activities, dummy activities, float.
- vii) Use of work activity analysis techniques.
- viii) Application of appropriate software.
- ix) Understanding of programme and schedule version control.

Unit PC35 Monitor, control and report on exposure, commitment and expenditure

Unit Commentary

This Unit is concerned with the competence required to monitor, control and report on exposure, commitment and expenditure in order to meet the project requirements. These activities need the relevant project control systems and methods to be in place and operational.

You must be able to:

- a) Verify that the income and expenditure control system is appropriate for project schedules and complies with the legal and organisational requirements.
- b) Ensure that exposure, commitment and expenditure is regularly collected and allocated to correct accounts/work breakdown structure in accordance with requirements and the authorised procedures.
- c) Control commitments against approved funding.
- d) Ensure that requests for payment approval are accurately verified for description, quantity, price and where appropriate, conformity with the contract.
- e) Monitor and report on project cash flow.
- f) Check that the actual and predicted variances are accurate, and are in accordance with agreed financial control procedures and customers are notified with associated recommendations.
- g) Provide stakeholders with explanations of variances, causes, implications and clear recommendations for action.
- h) Ensure that transfers and draw-downs from contingency and allowance funding are fully documented with reasons given and duly approved in line with project procedures.
- i) Issue a suite of cost reports on a regular basis identifying all the cost data analysis, requested by the customer, that is aligned with the work breakdown structure.

Scope:

1 Income and expenditure control systems

- Authorities for approval
- Frequency of reports
- Variance reporting
- Tracking
- Commitments
- Value of work done
- Supply chain cost data collection
- Accruals
- Currencies

2 Exposure and expenditure

- Purchases
- Contracts
- Manpower
- Expenses

3 Variances

- Misallocation
- Timing
- Under or over expenditure
- Under or over commitment
- Forecast cost variances

4 Stakeholders

- Clients or customers
- Key groups interested in the project outcomes
- Key groups affected by the project outcomes

Specific knowledge required for this Unit:

- i) Exposure, commitment and expenditure systems and their application.
- ii) Means of assessing and presenting cost control monitoring information.
- iii) Sources of specialist advice.
- iv) Forecasting systems and their applications to a programme.
- v) Change control methods and systems and their applications to project execution.
- vi) The relationship of the reporting of exposure, commitment and expenditure to the project and business accounting activities.

Unit PC36 Carry out project cost control activities

Unit Commentary

This Unit is concerned with the competence required to carry out project cost control activities that include the operation of project control systems, the collection of data and the preparation of specific cost reports. Execution of the activities requires that the relevant systems are in place and operational.

You must be able to:

- a) Operate the income and expenditure control system in accordance with the project requirements.
- b) Collect exposure, commitment and expenditure data and allocate it to the correct accounts/work/cost breakdown structure, in accordance with project requirements, and the approved control procedures.
- c) Record and report on commitments against approved funding.
- d) Ensure that requests for payment approval are accurately verified for description, quantity, price and where appropriate, conformity with the contract.
- e) Quantify the effects of changes in project scope
- f) Monitor project cash flow.
- g) Check that the actual and predicted variances are accurate, and are in accordance with agreed financial control procedures and customers are notified with associated recommendations.
- h) Provide stakeholders with explanations of variances, causes, implications and clear recommendation for action.
- i) Document, with reasons, approved transfers and draw-downs from contingency and allowance funding.
- j) Prepare cost reports, as required by the customer, identifying expenditure and commitments.

Scope:

1 Income and expenditure control systems

- Authorities for approval
- Frequency of reports
- Variance reporting
- Tracking
- Commitments
- Value of work done
- Accruals

2 Exposure and expenditure

- Purchases
- Contracts
- Manpower
- Expenses

3 Variances

- Misallocation
- Timing
- Changes in scope
- Under or over expenditure
- Under or over commitment

4 Stakeholders

- Clients or customers
- Key groups interested in the project outcomes
- Key groups affected by the project outcomes

Specific knowledge required for this Unit:

- i) Exposure, commitment and expenditure systems and their application.
- ii) Means of assessing and presenting cost control monitoring information.
- iii) Sources of specialist advice.
- iv) Forecasting systems and their applications to a programme.
- v) Interface between cost engineering and other project disciplines.
- vi) Change control systems

Unit PC37 Monitor, control and report on project progress

Unit Commentary

This Unit is concerned with the competence required to monitor, control and report on project progress. It requires that appropriate procedures are in place to control the scheduling and progress measurement aspects and the implications to the project.

You must be able to:

- a) Verify that the schedule is realistic, and that available resources are capable of meeting the project objectives and specification of requirements.
- b) Monitor that resources are deployed in a timely manner.
- c) Monitor progress to ensure that any departures from the schedule are identified promptly.
- d) Apply progress measurements methods that are hierarchically linked reflecting the projects lower level data base and higher level time base scheduling systems.
- e) Assess identified departures from the schedule and establish the likely consequences.
- f) Apply analysis and reasoning to the variances, and notify the customers and stakeholders with associated recommendations.
- g) Issue progress reports, programme updates and productivity data on a regular basis and as requested by customers and stakeholders.
- k) Provide support to the business planning cycles in terms of planned and actual data.

Scope:

1 Schedule

- Scope of activities
- Start and finish times
- Critical paths
- Floats

2 Resources

- Personnel
- Financial
- Materials, equipment and facilities

3 Stakeholders

- Clients or customers
- Key groups interested in the project outcomes
- Key groups affected in the projects outcomes

4 Departures from schedule

- Actual, predicted
- Time, cost, quality
- Unexpected and unscheduled events
- Areas of potential or actual conflict with other activities
- Changes in scope

Specific knowledge required for this Unit:

- i) Systems and procedures for providing resources, and the criteria associated with their application.
- ii) Use of the work breakdown structure, and other project breakdown structures, for monitoring and control.
- iii) Methods of assessing progress against schedule.
- iv) Methods of evaluating consequences of schedule change.
- v) Earned value analysis.
- vi) Change control procedures.
- vii) Risk analysis techniques.
- viii) Reporting systems and their applications to the programme.
- ix) Sources of specialist advice.
- x) Means/methods of assessing and presenting reports.

Unit PC38 Carry out project scheduling activities

Unit commentary

This Unit is concerned with the competence required to carry out project scheduling activities that include the operation of project planning systems, the collection of progress data and the preparation of specific progress reports. Execution of the activities requires that the relevant systems are in place and operational.

You must be able to:

- a) Operate the planning and scheduling systems in accordance with the project requirements.
- b) Collect progress data and allocate it to the correct elements of the work breakdown structure in accordance with the project requirements and the approved progress control procedures.
- c) Quantify the effects of changes.
- d) Monitor progress to ensure that any departures from the schedule are identified promptly.
- e) Assess identified departures from the schedule and apply analysis and reasoning to establish the likely consequences.
- f) Prepare progress reports and data, as required by the customer, identifying departures from the programme and recommended actions where required.

Scope:

1 Schedule

- Scope of activities
- Start and finish times
- Critical paths
- Floats

2 Departures from schedule

- Actual, predicted
- Time, cost, quality
- Unexpected and unscheduled events
- Areas of potential or actual conflict with other activities
- Changes in scope

Specific knowledge required for this Unit:

- i) Planning and scheduling methods including activity dependencies, critical paths and float.
- ii) Use of the work breakdown structure, and other project breakdown structures, for monitoring and control.
- iii) Methods of assessing progress against schedule.
- iv) Methods of evaluating consequences of schedule change.
- v) Change control procedures.
- vi) Information sources, drawings, specifications. Instructions. reports, data, computer software.
- vii) Reporting systems and their applications to the programme.
- viii) Sources of specialist advice.
- ix) Means/methods of assessing and presenting reports.
- x) Risk management concept and procedures.

Unit PC39 Select tenderers and obtain estimates, bids and tenders

Unit Commentary

This Unit is concerned with the competence to provide commercial support to the project by identifying and selecting tenderers and obtaining estimates, bids and tenders. The development of the project procurement strategy and any specific project procurement requirements is the responsibility of the project manager or other person acting in that capacity. The competence contained within this Unit is concerned with the implementation of the strategy and specific procurement requirements.

You must be able to:

- a) Provide commercial input to the selection of potential tenderers for project resources who are able to meet the contract specifications.
- b) Evaluate potential tenderers, who respond positively to requests for expressions of interest, against agreed selection criteria.
- c) Draft tender documents which meet the project operational requirements, technical requirements, procurement strategies and applicable legislative and regulatory requirements.
- d) Respond to queries from tenderers providing them with additional information that they need.
- e) Keep accurate records of tenders issued, feedback and queries and information from tenderers.

Scope:

1 Tenderers (which may include)

- Principal contractors
- Sub/works/trade contractors
- Suppliers
- Consultants
- Service providers
- Agents

2 Selection criteria (which may include)

- Quality and delivery record
- Perceived added value
- Estimates provided by potential tenderers
- References and experience record
- Financial, human, materials and facilities resources
- Competence of people
- Acceptability to the client
- Health and safety and environmental policies and management
- Identification of non-compliances

3 Tender documents (which may include)

- Pre-qualifications
- Invitations to tender
- Forms of tender
- Returns/opening procedure
- Technical requirements
- Bills of quantities and activity schedules
- Scope of services
- Health, safety and environmental plans
- Schedules
- Commercial terms and conditions

4 Project operational requirements

- Commercial
- Technical
- Programme
- Cost
- Quality
- Health, safety and environmental

Specific knowledge required for this Unit:

- i) Project and organisation policies and procedures for receiving, recording and opening tenderers submissions.
- ii) Selection criteria which are suitable for the work required of the tenderer.
- iii) Methods for analysing and comparing the tenderers submissions.
- iv) Ethical and commercial confidentiality considerations in the tenderer selection process.
- v) Roles, responsibilities and authorities of the parties involved in the selection process.
- vi) Records that should be kept of the process for project operational and for legal protection reasons.

Unit PC40 Evaluate and select successful bids from tenderers

Unit Commentary

This Unit is concerned with the competence to provide commercial support to the project by evaluating submissions from tenderers and selecting the successful bids. The development of the project procurement strategy and any specific project procurement requirements is the responsibility of the project manager or other person acting in that capacity. The competence contained within this Unit is concerned with the implementation of the strategy and specific requirements.

You must be able to:

- a) Agree the criteria with interested parties, for the evaluation and selection of tenders, that meet the overall and specific project objectives.
- b) Obtain approval for the evaluation and selection process with the interested parties paying particular attention to the internal and external approval stages.
- c) Analyse tenders against the agreed criteria and arrange for the resolution of any points of concern in the content of the tenders.
- d) Make recommendations as to the selected tender and record the reasons for the recommendations.
- e) Explain qualifications and reservations associated with the recommendations and proposals to deal with the qualifications and reservations.

Scope:

1 Interested parties (which may include)

- Technical specialists
- Project management
- Client
- Commercial and legal specialists
- Project team members
- Corporate management

2 Tenders from (which may include)

- Principal contractors
- Sub/works/trade contractors
- Suppliers
- Service providers
- Agents

3 Criteria

- Full compliance with all specified requirements
- Cost, quality and delivery
- References and experience
- Confidence in the availability of financial, human, materials and facilities resources
- Competence of people
- Health and safety and environmental policies and management

4 Points of concern

- Incomplete tender information
- Inconsistent tender information
- Unclear tender information
- Stated or implied reservations and exclusions
- Quantitative requirements
- Qualitative requirements
- Non-compliances

Specific knowledge required for this Unit:

- i) Methods of analysing and comparing tenders.
- ii) Means of referring and resolving queries concerning the content of tenders.
- iii) Ethical and commercial confidentiality considerations in the selection process.
- iv) Roles, responsibilities and authorities of the parties involved in the selection process.
- v) Procedures for notifying bidders of the outcome of their bid.
- vi) Methods for confirming variations and other adjustments made to a tender as a result of queries resolved during the evaluation process.
- vii) Records that should be kept of the evaluation process.
- viii) Commercial terms and conditions.

Unit PC41 Prepare the commercial aspects of bid and tender offers

Unit Commentary

This Unit is concerned with the competence to provide commercial support to the bidding and tendering process by preparing the commercial aspects of bid and tender offers. The development of a proposal bidding and tendering strategy and any specific proposal requirements is the responsibility of those authorised to manage the bid or tender operation. The competence contained within this Unit is concerned with the implementation of the strategy and specific requirements.

You must be able to:

- a) Participate in the identification of risks and potential opportunities involved in a successful bid or tender.
- b) Identify alternatives and qualifications to the original requirements that may help the organisation's ability to carry out the work and may provide protection against unacceptable commercial risks.
- c) Recommend the contract clauses and commercial terms that are suitable for the form of bid or tender proposed.
- d) Check that contract clauses, appendices and amendments meet statutory requirements.
- e) Obtain the necessary legal/commercial advice on the implications of non-standard forms of contract, clauses and documents.
- f) Review and obtain approval of obligations and liabilities proposed to be contained within a bid or tender.

Scope:

1 Risks and potential opportunities

- Environmental
- Financial and market
- Reputation and business development
- Technical
- Health and safety

2 Alternatives and qualifications

- Specifications and resources
- Methods of implementation
- Scope of services
- Time-scales
- Supply options
- Pricing options

3 Contract clauses (which may include)

- Standard
- Non-standard
- Implied terms
- Liabilities and obligations
- Terms of payment

Specific knowledge required for this Unit:

- i) Principles and processes of bid and tender preparation.
- ii) Risk and opportunity identification processes.
- iii) Forms of contract appropriate to the bid or tender type.
- iv) Conditions associated with liabilities and obligations implied or stated.
- v) Sources of legal and commercial advice.
- vi) Organisational procedures and practices particularly related to the review and approval of committing commercial bids and tenders.

Unit PC42 Conclude arrangements for the supply of subcontracts, goods, materials and services

Unit Commentary

This Unit is concerned with the competence to provide commercial support to the project by concluding arrangements for the supply, and status reporting, of subcontracts, goods, materials and services. The development of the project procurement strategy and any specific project procurement requirements is the responsibility of the project manager or other person acting in that capacity. The competence contained within this Unit is concerned with the implementation of the strategy and specific requirements.

You must be able to:

- a) Provide a commercial input to negotiating and agreeing the supply position and contract terms using a style and manner which maintains good relationships with those involved in the contract.
- b) Accurately record the results of negotiations and distribute the information promptly to all those involved in the contract.
- c) Arrange for the preparation of the final contract documents, including all the agreed amendments, ensuring that they meet the relevant legal requirements.
- d) Complete, and document, final checks that the parties to the contract are able to meet their obligations.
- e) Check that all the contract documents, and the records of events leading to the contract, are complete, accurate and stored securely.
- f) Set up and implement subcontractor and supplier status reporting processes that meet the project requirements.

Scope:

1 Contracts (which may be with)

- Principal contractors
- Sub/works/trade contractors
- Suppliers
- Service providers

2 Amendments (which may include)

- Allocations of risks and responsibilities
- Structure of the contract
- Key instructions
- Legal issues
- Reporting processes

3 Legal requirements (which may include)

- Statutes
- European Union and other regulations
- Codes of practice and procedures
- Common law

4 Obligations

- Insurances
- Bonds
- Warranties
- Statutory
- Financial guarantees

5 Contract documents (which may include)

- Invitation to tender
- Forms of tender
- Specifications and drawings
- Schedules and bills of quantities
- Procedures and reporting requirements
- Health, safety and environmental plans
- Scope of services
- Terms and conditions
- Schedules of rates

Specific knowledge required for this Unit:

- i) Organisational policy, procedures and practices for concluding contracts.
- ii) Terms and conditions of contract appropriate to the project elements concerned.
- iii) Basic principle of contract law, including implied terms.
- iv) Ethical and confidentiality considerations in the contracting process.
- v) Methods for the recording and storage of contract documents.
- vi) Means of identifying that the parties are able to meet their obligations.
- vii) Methods for the effective negotiation of subcontracts.
- viii) Processes for reporting and controlling the contracts post placement.

Unit PC43 Forecast the use of project financial resources

Unit Commentary

This Unit is concerned with the competence required to forecast the use of project financial resources. The competences include:

- Establishing the current project financial status.
- Assessing potential future costs, including changes, commitments yet to be made, retentions, risks and post completion liabilities.
- Applying approved techniques to estimate the project financial out-turn.

You must be able to:

- a) Verify that the systems for collecting and collating income, expenditure and commitment data meet the operational needs of the project and its cost control requirements.
- b) Establish revised systems where these are determined as being necessary to meet the needs of the project.
- c) Identify variances between planned and actual costs, income and cash flow.
- d) Apply analysis and reasoning to the variances and make recommendations for rectifying adverse trends.
- e) Produce calculations and reports on a regular basis that reflect the phasing of future expenditure and income and the anticipated project financial status at completion.
- f) Produce project financial data to meet the organisation's needs for corporate accounts.

Scope:

1 Systems for collecting and collating income, expenditure and commitment data

- IT systems
- Manual systems
- Payments and receipts
- Orders and invoices
- Contingency and allowance management
- Variance records
- Data from within the organisation
- Data from external sources

2 Variances

- Misallocation
- Timing not to schedule
- Under or over expenditure
- Under or over commitment
- Forecast cost variances
- Forecast income variances
- Scope changes

Specific knowledge required for this Unit:

- i) Systems for collecting and collating income, expenditure and commitment data.
- ii) The nature of the causes and effects of variances.
- iii) Forecasting and analysis methods to help determine the anticipated financial out-turn — including earned value and trend analysis.
- iv) Sources of specialist advice within and without the project team.
- v) Means of reporting and presenting project financial data.

Unit PC44 Forecast the project schedule achievement

Unit Commentary

This Unit is concerned with the competence required to forecast the project schedule achievement. The competences include:

- Establishing the project progress achievement status.
- Assessing the potential future rates of progress, including changes, commitments yet to be made, productivity levels and risks.
- Applying approved techniques to estimate the project schedule out-turn.

You must be able to:

- a) Verify that the systems for collecting and collating project progress data meet the operational needs of the project and its progress control requirements.
- b) Establish revised systems where these are determined as being necessary to meet the needs of the project.
- c) Identify variances between planned and actual progress achievement.
- d) Apply analysis and reasoning to the variances and make recommendations for rectifying adverse trends.
- e) Produce analysis and reports on a regular basis that reflect the phasing of future activities and progress and the anticipated achievement of stage payment or other key dates and the anticipated project completion date.

Scope:

1 Systems for collecting and collating progress data

- IT systems
- Manual systems
- Man-hours and manpower
- Activity and materials progress
- Information and data progress
- Variance and scope change records
- Data from within the organisation
- Data from external sources

2 Variances

- Misallocation
- Timing not to schedule
- Under or over achievement
- Forecast schedule variances
- Scope changes

Specific knowledge required for this Unit

- i) Systems for collecting and collating project progress data.
- ii) The nature of the causes and effects of variances.
- iii) Forecasting and analysis methods to help determine the expected schedule status at completion — including earned value and trend analysis.
- iv) Sources of specialist advice within and without the project team.
- v) Means of reporting and presenting project progress data.

Unit PC45 Calculate the financial outcomes of activities

Unit Commentary

This Unit is concerned with the competence to calculate the financial outcomes of activities. This will include the forecasting of final costs, phasing of expenditure and the effects of variances. It also includes the production of reports to customers and management.

You must be able to:

- a) Produce calculations of forecast final costs of activities.
- b) Calculate expenditure phasing.
- c) Produce cost reports as required by the procedures or for a specific purpose.
- d) Identify variances between budgeted final costs and anticipated actual final costs.
- e) Apply reasoning to variances and make appropriate recommendations to management.

Scope:

1 Forecasts and reports

- Authorities for approval
- Frequency of reports
- Accounts
- Variance reports

2 Management

- Line manager
- Customers
- Accountants
- Senior management

3 Variances

- Misallocation
- Timing not to schedule
- Forecast cost variances
- Overruns
- Under-runs
- Scope changes

Specific knowledge required for this Unit:

- i) The application of expenditure forecasting systems.
- ii) Methods of presenting forecast expenditure.
- iii) Methods and procedures for measuring and analysing progress.
- iv) Earned value analysis.
- v) Work breakdown and other project scope coding structures.
- vi) Variance identification and management.

Unit PC46 Calculate activity completion data

Unit Commentary

This Unit is concerned with the competence to calculate activity completion data and, as a result, the completion of scheduled scopes of work. This will include the preparation of time and resource calculations, phasing of activities and identification of variances. It also includes the production of reports to management and clients.

You must be able to:

- a) Produce calculations of resource usage and anticipated completions of planned activities.
- b) Identify key/milestone dates and forecast and report on achievement in relation to the key dates.
- c) Produce schedules as required by the procedures or for specific purposes.
- d) Identify variances between planned and actual achievements.
- e) Apply reasoning to variances and make appropriate recommendations to solve problems.
- f) Prepare reports on activity completion as required by customers.

Scope:

1 Forecast and report

- Authorities for approval
- Frequency of reports
- Forecasting methodology
- Variance reports

2 Resources

- Human
- Material
- Information
- Own organisations
- Contractors
- Sourced from other external bodies

3 Variances

- Misallocation
- Timing not to schedule
- Forecast cost variances
- Overruns
- Under-runs
- Areas of conflict with other programmes
- Scope changes

Specific knowledge required for this Unit:

- i) The application of progress reporting systems.
- ii) Methods of presenting schedule activity completion.
- iii) Methods and procedures for measuring and analysing progress.
- iv) Earned value and trend analysis.
- v) Work breakdown and other project scope coding structures.
- vi) Variance identification and management.

Unit PC47 Evaluate the information and prepare claim submissions

Unit Commentary

This Unit is concerned with the competence to evaluate the information that is relevant to a claim and to prepare the claim submission.

Claims between contracting parties may become necessary when the normal operational practices of agreeing changes in the scope of a project fail to meet the needs of the situation. Examples could be project prolongation brought about by weather conditions or a sympathy claim arising from circumstances that could not have been reasonably foreseen at the time the contract was entered into.

You must be able to:

- a) Retrieve and collate information that is relevant to the claim, clarifying any uncertainties with the information originators.
- b) Assess the information, identifying that which will support the validity of the claim and summarising and justifying it in reasoned arguments.
- c) Consult with specialists where guidance and advice are required on the availability or interpretation of information.
- d) Develop a claim presentation strategy and seek and gain approval for it in accordance with project and the organisation's procedures.
- e) Obtain information about similar cases, identifying key points of commonality and precedent, that can be used to support the claim.
- f) Produce claim materials and submissions which are accurate and valid and in accord with the approved strategy.
- g) Ensure that information is treated with the necessary degree of confidentiality and only made available to those who have a right to see it.

Scope:

1 Information relevant to the claim (which may include)

- Contract documents
- Correspondence
- Instructions
- Technical and contract records
- Summaries of similar cases
- Research and testing
- Standards and codes of practice
- From witnesses
- From events on relevant related projects

2 Originators

- Own organisation
- Contractors
- Suppliers
- Service providers
- Providers of resources

3 Specialists (which may include)

- Technical
- Commercial
- Legal
- Financial
- Health and safety
- Environmental management
- Quality management

Specific knowledge required for this Unit:

- i) Sources of relevant information specific to the project and the claim.
- ii) Methods of collating information and discriminating between the relevant and irrelevant.
- iii) How and where to obtain information about similar cases.
- iv) Sources of specialist advice relevant to the specific project and claim.
- v) How to develop and agree a claim presentation strategy.
- vi) Obtaining and recording information from witnesses.
- vii) The project and the organisation s procedures and methods for protecting the confidentiality of information.

Unit PC48 Provide commercial support to the agreement of claims

Unit Commentary

This Unit is concerned with the competence to provide commercial support to reaching agreement on a claim between the parties concerned.

Claims between contracting parties may become necessary when the normal operational practices of agreeing changes in the scope of a project fail to meet the needs of the situation. Examples could be project prolongation brought about by weather conditions or a sympathy claim arising from circumstances that could not have been reasonably foreseen at the time the contract was entered into.

The process of reaching agreement involves the application of skills in valuation, analysis and negotiation. The function of the project control practitioner is to deploy those skills in support of the project and the organisation's management efforts to reach agreement on the claim.

You must be able to:

- a) Prepare valuations of the work and consequences, that are the subject of the claim, as a basis for negotiations and agreement.
- b) Prepare the background information in support of the valuations clarifying and justifying areas of potential disagreement.
- c) Analyse the opposing grounds giving rise to disagreements and structure and present alternative proposals for agreement.
- d) Question and test the consistency, validity and resilience of the arguments and data put forward by any opposing parties.
- e) Suggest realistic options and processes for resolving differences when initial proposals are not accepted.
- f) Conduct negotiations in a manner which maintains goodwill and trust.
- g) Keep accurate and complete records of negotiations, additional information provided and all agreements concluded.
- h) Ensure that information is treated with the necessary degree of confidentiality and only made available to those who have a right to see it.

Scope:

1 Valuations of the work

- Verified information sources
- Contract valuations
- Variations
- Adjustments and allowances
- Records of events

2 Claims (resulting from)

- Measurement
- Valuation of variations
- Liability for costs
- Loss and expenses arising from extensions of time
- Damages arising from extra-contractual consideration
- Conditions not reasonably foreseeable at contract award

3 Analyses

- Claimants analysis
- Respondents analysis

4 Options and processes

- Re-negotiation
- Negotiations at higher levels of authority
- Conciliation and arbitration
- Formal dispute resolution
- Legal action

Specific knowledge required for this Unit:

- i) Working methods for analysing and preparing valuations.
- ii) Methods for preparing and submitting valuations and accounts.
- iii) Effective negotiation practices.
- iv) Working methods for analysing opposing claims and structuring reasoned responses.
- v) Claim and negotiation record keeping.
- vi) How and to whom recommendations for acceptance of settlement offers are made.
- vii) How and to whom recommendations of responses to reactions and proposals from opposite parties are made.
- viii) Methods of effective negotiation in reaching the agreement of claims.

Unit PC49 Identify and quantify emerging changes

Unit commentary

This Unit is concerned with the competence to identify and quantify emerging changes whether caused by design, opportunity or difficulty. In order to monitor and adjust activities, resources and plans, the project control practitioner must continually evaluate the project's schedule and progress and identify any emerging risks and opportunities.

Changes need clear authorisation for work to be undertaken. The project activities and resources must be kept in line with project plans. The project control practitioner must identify opportunities for improvements in project activities, which may in turn, lead to adjustments to the planned schedule. Items of change must be controlled so that disruption to the project is minimised. The stakeholders of the project must be kept informed of any adjustments needed to the project scope and definition.

You must be able to:

- a) Review and evaluate progress against programmes and budgets, so that project goals can be achieved.
- b) Ensure that clear authorisation for all stages of work have been given.
- c) Control the project activities and resources in line with the plans, budgets or schedules or, where necessary, adjust them in a way that is consistent with the project's objectives and definition.
- d) Actively seek and evaluate ways of improving the work of the project, and control changes in a way, which keeps disruption to a minimum.
- e) Make adjustments to activities, resources and plans with the knowledge and agreement of team members and stakeholders, and ensure that adjustments are accurately recorded and securely stored.
- f) Manage client requested or design changes such that correct assessment of the value of incorporating the change is properly approved before implementation.

Scope:

1 Types of review and evaluation

- Direct observation
- Considering reports from others

2 Changes

- With programme implications
- With financial implications
- Involving external organisations
- Which may involve project management, design, procurement, contract or construction activities.
- Which may include misallocation, timing, man-hours, deviance from programme, deviance from projected expenditure or commitment of funds.

3 Stakeholders

- Clients or customers
- Key groups interested in project outcomes
- Key groups affected by the project outcomes

Specific knowledge required for this Unit:

- i) The practices and procedures for managing changes.
- ii) How to minimise disruption where changes are needed.
- iii) Methods that can be used for maintaining project control including registering changes, quantifying changes, and gaining approval for implementation.
- iv) Methods for keeping project stakeholders informed of the implications of changes for the project s scope and completion.
- v) Means of obtaining team members agreement to changes in plans.

Unit PC50 Ensure the completion of project control activities

Unit commentary

This Unit is concerned with the competence required to ensure that everything has been completed satisfactorily such that all project controls activities are fully auditable, final financial statements completed, claims settled and data recovery completed.

You must be able to:

- a) Verify that the projects objectives have been achieved to the agreed schedule, costs and quality criteria.
- b) Obtain agreements from suppliers and contractors that all budgeted payments have been authorised and paid including scheduled and non-scheduled works.
- c) Ensure that all project control deliverables are handed over in accordance with the agreed procedures, including the requirements of financial control, resources and personnel.
- d) Obtain agreements from project management that all specified project controls work has been achieved.
- e) Ensure that all documents and records relating to project control are accurate, complete and stored appropriately for the future.

Scope:

1 Project control deliverables (which may include)

- Financial statements
- Schedules
- Final payments
- Contract completion reports
- Claim settlements
- Fixed asset registers
- Project close-out reports
- Lessons learned for the future

Specific knowledge required for this Unit:

- i) Experience of previous or similar projects.
- ii) How to deal with items of non-compliance.
- iii) Methods of ensuring that the agreed deliverable have been delivered.
- iv) Procedures for storing records and documents for future use.
- v) Procedures for finance, resources and personnel, which need to be followed at project closure.
- vi) The records and documents which need to be completed.
- vii) The plans and timescales for project closure.
- viii) Who needs to be involved in project handover and close out.
- ix) Contractual obligations on the parties at completion.

Unit PC51 Evaluate project controls performance and project information and data

Unit Commentary

This Unit is concerned with the competence to evaluate the performance of the project control function and to extract information from project records and feedback from others working on the project as a basis for learning lessons and implementing action to secure improvements in operational practices. This is an ongoing process with lessons learnt being implemented, wherever possible, throughout the life of the project rather than left to the end, and the application of lessons learnt to future projects.

Areas to be considered for evaluation will include client or customer relations, procedures for project controls, contract management and auditing.

You must be able to:

- a) Identify items upon which feedback is required.
- b) Gain the co-operation of interested parties in obtaining feedback and promote the positive value and benefits of obtaining and using feedback.
- c) Identify reliable methods and sources, both for obtaining feedback and for reviewing and recommending improvements for future activities.
- d) Identify, obtain, investigate and assess feedback data, including project performance data and norms, for its relevance and potential use.
- e) Record and classify potential improvements and benefits.
- f) Present the results of your work to customers and stakeholders with recommended actions and identified lessons to be learned.

Scope:

1 Feedback

- Projects in progress
- Completed projects

2 Feedback methods and sources

- Project monitoring
- Project records and documentation
- Meetings or questionnaires
- From those directly involved in the project s delivery

3 Benefits

- Costs benefits
- Improved competitiveness
- Improved performance and delivery
- Better control

Specific knowledge required for this Unit:

- i) How to identify areas for evaluation.
- ii) How to identify sources of relevant feedback.
- iii) Methods of obtaining feedback.
- iv) Methods of identifying and justifying the use of new data, and for recommending improvements.
- v) How to analyse feedback data.
- vi) Organisation, systems and procedures used in the project.
- vii) Ways of promoting and presenting results.

Project Control Qualification Structures

Approved Version

September 2004

Qualification Structure — Level 3

Mandatory Units

PC2 — Apply information technology (IT) to project control
 PC4 — Monitor risks and review contingencies
 PC7 — Apply quality assurance procedures to project control activities
 PC8 — Retrieve, record and present project control information
 PC14 — Develop yourself in the project control work role
 PC17 — Contribute to effective project working relationships
 PC18 — Observe and apply professional ethics and values

Developing the project — Optional Units

(2 out of 4 Units to be completed)

PC24 — Prepare project cost estimates
 PC25 — Prepare the project programme
 PC26 — Plan the project procurement activities
 PC28 — Apply procedures, methods and systems

Implementing the project — Optional Units

(3 out of 6 Units to be completed)

PC33 — Prepare project control budgets
 PC34 — Prepare project control programmes and schedules
 PC36 — Carry out project cost control activities
 PC38 — Carry out project scheduling activities
 PC45 — Calculate the financial outcomes of activities
 PC46 — Calculate activity completion data

Guidance Notes

The Project Control Occupational Standards cover the occupations of estimating, cost control, planning and commercial support. The table below provides guidance on the selection of the Optional Units from the Developing the project and Implementing the project groups of Units that may be appropriate for each occupation.

Optional units		
Estimating & Cost Control	Planning	Commercial Support
Developing the project		
PC24 PC28	PC25 PC28	PC26 PC28
Implementing the project		
PC33 PC36 PC45	PC34 PC38 PC45	PC34 PC45 PC46

In addition to these particular occupations, some organisations have staff working in the more general role of project controller responsible for some aspects of more than one of the particular occupations. This more general role is often found within client organisations.

The Optional Units relevant to this more general role will depend upon the functions being carried out by the practitioner. The Level 3 qualification will require completion of any 2 out of the 4 Developing the project Optional Units and any 3 out of the 6 Implementing the project Optional Units.

Qualification Structure — Level 4

Mandatory Units

- PC1 — Oversee the application of information technology (IT) to project control
- PC3 — Identify risks and evaluate options for their control
- PC5 — Monitor the implementation of risk control measures
- PC6 — Assure and control the quality of project control activities
- PC9 — Acquire and handle information needed for project control
- PC18 — Observe and apply professional ethics and values
- PC19 — Plan and implement project control operational developments
- PC49 — Identify and quantify emerging changes
- PC50 — Ensure the completion of project control activities
- PC51 — Evaluate project controls performance and project information and data

Working with people and managing yourself — Optional Units

(3 out of 6 Units to be completed)

- PC10 — Provide advice and support to maintain progress
- PC11 — Manage the project control team — agree objectives with teams and individuals
- PC12 — Manage the project control team — allocate work
- PC13 — Manage the continuing development of your personal and project control professional skills
- PC15 — Develop the skills of your project control team members
- PC16 — Develop and maintain effective working relationships

Developing the project — Optional Units

(3 out of 6 Units to be completed)

- PC20 — Determine the requirements for project control
- PC21 — Estimate and specify financial resources
- PC22 — Develop the project programme
- PC23 — Establish project procurement requirements
- PC27 — Establish procedures, methods and systems
- PC29 — Develop commercial control procedures

Implementing the project — Optional Units

(4 out of 13 Units to be completed)

- PC30 — Develop the work breakdown and coding structures
- PC31 — Establish project control budgets
- PC32 — Establish project control programmes and schedules
- PC35 — Monitor, control and report on exposure, commitment and expenditure
- PC37 — Monitor, control and report on project progress
- PC39 — Select tenderers and obtain estimates, bids and tenders
- PC40 — Evaluate and select successful bids from tenderers
- PC41 — Prepare the commercial aspects of bid and tender offers
- PC42 — Conclude arrangements for the supply of subcontracts, goods, materials and services
- PC43 — Forecast the use of project financial resources
- PC44 — Forecast the project schedule achievement
- PC47 — Evaluate the information and prepare claim submissions
- PC48 — Provide commercial support to the agreement of claims

Guidance Notes

The Project Control Occupational Standards cover the occupations of estimating, cost control, planning and commercial support. The table below provides guidance on the selection of the Optional Units from the Developing the project and Implementing the project groups of Units that may be appropriate for each occupation.

Optional Units			
Estimating	Cost Control	Planning	Commercial Support
Developing the project			
PC20	PC20	PC20	PC20
PC21	PC21	PC22	PC23
PC27	PC27	PC27	PC29
Implementing the project			
PC30	PC30	PC30	PC39
PC31	PC31	PC32	PC41
PC40	PC35	PC37	PC42
PC43	PC43	PC44	PC47 or PC48

In addition to these particular occupations, some organisations have staff working in the more general role of project controller responsible for some aspects of more than one of the particular occupations. This more general role is often found within client organisations.

The Optional Units relevant to this more general role will depend upon the functions being carried out by the practitioner. The Level 4 qualification will require completion of any 3 out of the 7 Developing the project Optional Units and any 4 out of the 12 Implementing the project Optional Units.

Assessment Strategy
For
Project Control N/SVQs

Approved Version

September 2004

Assessment Strategy

For N/SVQs Derived From The Project Control National Occupational Standards

Introduction

The Engineering Construction Industry Training Board (ECITB) Standards Setting Body is the project manager for the review and revision of the project control occupational standards that have been in use since the late 1990s. These standards have given rise to a Level 4 NVQ, and to a Level 3 vocational qualification, created and used by ECITB, which was not in the National Framework.

A Working Group of stakeholders in the project control occupational standards and qualifications has prepared this Assessment Strategy, which is to be applied to vocational qualifications that are created from the revised standards. The stakeholders who have been involved in the definition of the strategy are:-

- Engineering Construction Industry Training Board (ECITB) — both the Standards Setting and the Awarding Body parts of the organisation.
- Association for Cost Engineers (ACostE) — the professional body for project control practitioners.
- Association for Project Management (APM) — the professional body for project management practitioners.
- British Chemical Engineering Contractors Association (BCECA) — the trade association to which 18 of the UK's major employers of Project Control practitioners belong. BCECA represents the principal companies in the UK that provide engineering, procurement, construction and project management services to the process industries.
- Occupational Standards Council for Engineering (OSCEng) — a voluntary, employer led association of parties sharing the commitment to the development of a coherent framework of occupational standards and, with Awarding Bodies, qualifications across the full range of engineering occupations.
- ProVoc — The user group for the existing Project Control vocational qualifications. It draws its membership from project control practitioners, assessors and verifiers, the standard setting and awarding bodies, candidates and employers. It is a sub-committee of ACostE and invites QCA representatives to its meetings.
- Representatives from individual companies including British Energy, AMEC, Parsons E & C, CB&I John Brown, Ove Arup and Rolls Royce.

The strategy outlines the requirements for the assessment of competence. This includes assessment for the purposes of nationally accredited vocational qualifications (NVQs/SVQs) and units.

Project Control has relevance across many sectors of business and industry with projects varying considerably in duration, size and cost. Candidates can therefore be operating domestically, nationally or internationally, and it is therefore essential that the assessment process is relevant to the business and the sector in which they are operating.

The stakeholder group has established the requirements for:

- i) enhanced external quality control
- ii) standards that must be assessed against workplace evidence and performance
- iii) the areas, use and terms for simulation
- iv) the competence requirements of Assessors and Verifiers
- v) guidance on specific assessment issues resulting from the content of the standards that is contained in **Appendix B**

1 Enhanced Quality Control and Assessment

After consultation, it was concluded that it would be neither cost-effective nor beneficial to adopt the approaches outlined in **Appendix A** as a mandatory part of the strategy for enhancing quality control.

Awarding Bodies through the quality control mechanisms, specified within the NVQ Code of Practice and the SQA Criteria document (Implementing SVQs - A Guide to Awarding Bodies), must ensure rigorous and effective control of centres and the assessment processes so that judgement of what is valid, authentic, current, reliable and sufficient evidence is maintained across all assessment contexts. To ensure consistency and integrity of assessment it is required that the Awarding Bodies routinely participate in meetings of Approved Centre assessors, internal verifiers and vocational qualification administrative staff which shall be the focus for ensuring that assessment of competence is conducted in a fair and consistent manner.

The Awarding Bodies will be expected to support a common understanding of the standards and promote the best assessment practice by the Approved Centres to:

- i) establish and maintain a common guide to appropriate types and amounts of performance evidence for the units.
- ii) draft and maintain a specification of basic knowledge issues to be addressed for the units.
- iii) agree to carry out 100% External Verification of the undernoted mandatory units within the vocational qualifications and also to agree an outline sampling plan for the remaining units in the awards.

Units For External Verification	
Project Control — Level 4	Project Control — Level 3
<i>Units</i>	<i>Units</i>
PC9 — Acquire and handle information needed for project control. PC49 — Identify and quantify emerging changes.	PC8 — Retrieve, record and present project control information. PC17 — Contribute to effective project working relationships.

- iv) contribute to cross Awarding Body standardisation activities.
- v) ensure effective systems are in place and managed to confirm occupational competence of Assessors and Verifiers.
- vi) collate and report on take up, promotional activities, successes and areas of difficulty.

The Awarding Bodies are required to define and maintain comprehensive guidance for the external verification of assessment procedures, processes and outcomes. Specific elements to be included are:

- i) The Awarding Body verification systems must ensure that the External Verifier sample of the evidence represents a sufficiently accurate picture of assessment in the centre to be confident that those decisions not sampled would also meet the National Standards.
- ii) External Verifiers should support centres in developing Internal Verification practices in line with good practice outlined in the Joint Awarding Bodies Guidance on Internal Verification.
- iii) External Verifiers must require centres to submit details of assessment planning arrangements and assessment recording forms and systems. Submitted information must include information on the planned use and design of simulations and the External Verifier must be satisfied that these accord with the recommendations on the acceptability and use of simulation given later in this strategy.

2 Assessment of Performance in the Workplace

Other than as indicated in the sections below on simulations, all evidence of competence must reflect activity undertaken by the candidate in the workplace

Candidates should be encouraged to make effective use of all available opportunities for evidence collection in line with the following principles:

- i) evidence must be valid, in that it meets the requirements of the standard and is capable of being authenticated as the candidate's own work, or work for which the candidate has responsibility and it meeting the standard.
- ii) where the scale, diversity, complexity and duration of projects from which candidates can derive evidence is limited, evidence from a single project, using a combination of significant components within it, may be sufficient. However, evidence from a range of projects is preferable.
- ii) assessors should pay due regard to the cost—effectiveness of using varied sources of evidence when planning assessments with candidates.

As a guide a project, in the context of this qualification or units within it, is likely to have most if not all of the following attributes:

- (a) *it will have individual, original and unique features that are novel to its management and is unlikely to be of a repetitive nature*
- (b) *it will involve risk and uncertainty and may be influenced by external events outside the project manager's direct control*
- (c) *it will be approved against commitments to deliver specified, qualified and quantified results within stated quality and technical parameters*
- (d) *authorisation will require results to be delivered within a specified time frame (stated start—end dates), resource and cost constraints*
- (e) *the project will usually involve a team nominated from across a range of disciplines and the project life cycle, which may be subject to change during the project's development/progress. Some organisations may assemble a team specifically for the duration of the project.*

3 Acceptability and Use of Simulation

The use of simulation as a means of assessing competence is only acceptable in relation to those few instances where one or more of the following characteristics apply:

- i) Health and safety could be compromised by seeking workplace evidence;
- ii) The behaviour or situation under which assessment occurs happens infrequently in the workplace.
- iii) The responsibility for the work rests with candidates, but it is usually delegated and they have limited opportunity to demonstrate it
- iv) There would be unacceptable commercial or operational risk in securing workplace assessment.
- v) Facilities need to be placed in an unacceptable operating state to allow for assessment to take place.

Specific units for which simulation is permitted are:

Project Control — Level 4

- PC3 — Identify potential risks and evaluate options for their control.
- PC30 — Develop the work breakdown and coding structures.
- PC39 — Select tenderers and obtain estimates, bids and tenders.

Project Control — Level 3

- PC4 — Monitor risks and review contingencies.
- PC33 — Prepare project control budgets.
- PC45 — Calculate the financial outcomes of activities.

For all units where simulation is permitted, the simulation must be designed to reflect the activity as it would be carried out in a workplace environment, including:

- (a) The presence, actions and capabilities of other interacting personnel.
- (b) The urgency with which the activity must be carried out and the time needed to complete it
- (c) The number and sequence of actions needed to complete the activity
- (d) The number and complexity of the factors affecting the activity
- (e) The skills and knowledge needed to carry out the activity
- (f) The nature and availability of resources needed to carry out the activity
- (g) Access to references and sources of advice and assistance that could be needed if problems arise
- (h) The type of documentation to be completed
- (i) The standards to which the activity must be carried out, including any practices and procedures which must be followed
- (j) The outcomes which the activity will produce

Assessor proposals for the use of simulation should be approved by the Awarding Body in advance of being used and may be rejected if they fail to comply with the characteristics listed above.

No more than 10% of the total evidence presented by a candidate is permitted to result from simulated activities.

4 Requirements for Assessors and Verifiers

Assessors

Assessors are responsible for assessing candidates performance against the relevant occupational standards. Therefore, they must have had recent and relevant experience of performing the competences under review. They must also have a thorough technical knowledge of what constitutes effective performance and best working practices in the context in which the assessment is to take place. It is unlikely that an individual of less than five years experience of project control in the relevant sector would have sufficient occupational or vocational competence to be an effective assessor.

In addition, Assessors must have achieved the Employment NTO Unit A1 - Assess Candidate Performance Using a Range of Methods, or have a clear action plan for the achievement of that unit, or hold an equivalent qualification. Where an Assessor is still working towards the A1 unit, an Assessor qualified in the unit must support and countersign the final assessment decisions.

Assessors who already hold the D32 Assess Candidate Performance and D33 Assess the Candidate Using Differing Sources of Evidence qualifications will not be required to re-qualify with the A1 unit but will be required to show evidence of their continuing professional development (CPD), eg familiarity with the new standards and keeping up to date with new assessment techniques.

Assessors must be able to demonstrate a working knowledge of the Project Control Occupational Standards, as well as the Awarding Body s and Approved Centre s systems and procedures.

There may be a requirement to use more than one Assessor for a candidate to cover the full award. Centre arrangements must ensure the co-ordination and cohesion of the assessment process in those circumstances.

Internal Verifiers

Internal Verifiers must have direct experience or substantial knowledge of the occupational area for which they are responsible for verifying assessment processes, practices and decisions. Internal Verifiers must have achieved Employment NTO Unit V1 - Conduct Internal Quality Assurance of the Assessment Process. It is desirable that Internal verifiers have also achieved the Employment NTO Unit A1 — Assess Candidate Performance Using a Range of Methods, or have a clear action plan for the achievement of the unit, or hold equivalent qualifications.

Where an Internal Verifier is still working towards the Employment NTO V1 unit, an Internal Verifier qualified in the unit must support and countersign the final judgement.

Internal Verifiers who already hold the D34 - Internally Verify the Assessment process qualification will not be required to re-qualify with the V1 unit but will be required to show evidence of their continuing professional development (CPD), eg familiarity with the new standards and keeping up to date with new assessment techniques.

Internal Verifiers must be able to demonstrate a thorough working knowledge of the National Occupational Standards for Project Control, the Awarding Body's and Approved Centre's systems and procedures and the ability to work effectively with both assessors and candidates. Where an Internal Verifier has only limited occupational or vocational expertise, mechanisms must be put in place by the Approved Centre for supporting Internal Verifiers with occupational related decisions. It is essential that Internal Verifiers should have no direct involvement in the assessment of candidates for the unit(s) they are verifying.

External Verifiers

External Verifiers must have achieved, or be working towards gaining, within the required timeframe, the Employment NTO Unit V2 - Conduct External Quality Assurance of the Assessment Process or hold an equivalent qualification. It is desirable that they also hold the Employment NTO Unit V1 — Conduct Internal Quality Assurance of the Assessment Process, or hold equivalent qualifications. Where an External Verifier is still working towards the relevant Employment NTO unit, a Verifier qualified in the relevant unit must support the final judgement. External Verifiers must possess effective communication and interpersonal skills.

External Verifiers who already hold the D35 - Externally Verify the Assessment Process qualification will not be required to re-qualify with the V2 unit but will be required to show evidence of their continuing professional development (CPD), eg familiarity with the new standards and keeping up to date with new assessment techniques.

External Verifiers should have a thorough working knowledge of the Project Control Occupational Standards, the Accrediting Bodies' guidance on the implementation of NVQs/SVQs, the Awarding Body's systems and procedures and quality assurance operating procedures.

Where an External Verifier has only limited vocational expertise, mechanisms must be put in place by the Awarding Body for supporting External Verifiers with occupational related decisions. Such supporting individuals must not have been involved with the assessments concerned.

Confirmation of Competence

Awarding Bodies need to have in place effective systems for confirming the occupational and vocational competence of Assessors and Verifiers. The systems for recruitment and monitoring must be capable of

balanced and objective decisions, using evidence from academic and vocational qualifications, balanced against breadth and length of experience from the workplace.

Appendix A

After consultation with the stakeholders it was concluded that it would be neither cost-effective nor beneficial to adopt the following approaches to external quality control as a mandatory part of the strategy. This does not exclude Awarding Bodies using them where they have mechanisms in place and wish to adopt them as a means of enhancing quality.

Use of independent assessors (moving the candidate)

The variation in business sector needs and techniques involved would make the use of test centres impractical, unrealistic and expensive in assessing candidate achievement.

Use of independent assessors (moving the assessor)

The spread of candidates, small numbers per centre and the need for a spread of business sector occupationally competent peripatetic assessors would be very costly. It could create difficulties in finding and allocating assessors with suitable experience who are available to travel to the required locations.

Use of independent assessment methods (open written response assessment)

Given the variation in technologies it would be difficult to generate assessment instruments that could be administered and marked in a cost-effective, reliable and consistent manner.

Use of independent assessment methods (multiple choice tests)

Given the wide variation in business and sector requirements, there would be low confidence in the validity and reliability of multiple choice testing in such assessments.

Appendix B

Guidance on Specific Assessment Issues

Assessment of Subjective Performance Evidence

In some of the units, performance statements (You must be able to) will need evidence that is of a subjective nature. The under-noted examples illustrate the point.

Unit	You must be able to statement
PC2	d) Share your own skills and understanding to help others.
PC10	e) Provide advice and support, and make proposals, in ways that give encouragement and reinforce confidence.
PC16	a) Establish relationships with all colleagues who are relevant to the project control work being undertaken. b) Make those relationships productive in delivering results for the project and your organisation. c) Recognise and respect the roles and responsibilities of colleagues.
PC17	a) Establish and maintain productive working relationships with colleagues. c) Keep others informed about work plans or activities which affect them.

Approved Centres are to develop reliable methods for assessing the evidence of competence provided by candidates in response to such You must be able to statements. Such methods may include the use of witness testimony and the interview of witnesses as part of the assessment process.

Assessment of Scope

It is intended that candidates should provide evidence of competence that cover all items within the statements of Scope. However, there are some statements of Scope which are specified in such a way that there is a degree of flexibility in the evidence requirements. The under-noted examples illustrate the point.

Unit	Scope Item	Statement
PC10	Scope 3	Advice and support may involve
PC23 & PC26	Scope 3	Categories of providers (may include)
PC30	Scope 4	Work breakdown and coding structures (which may be) ..

In such instances, it would be expected that candidates would be able to present evidences that cover a substantial proportion of the Scope requirements and never less than for 50% of the requirements.

Project Control

Key and Core Skills
Signposting

September 2004

Key Skills Signposting		Application of Number	Communication	Information Technology	Improve own learning	Problem solving	Working with others
Unit Number	Unit Title						
PC1	Oversee the application of information technology (IT) to project control		L4	L4	L4	L4	L4
PC2	Apply information technology (IT) to project control		L3	L3	L3		L3
PC3	Identify risks and evaluate options for their control	L4	L4	L4		L4	L4
PC4	Monitor risks and review contingencies	L3	L3	L3	L3	L3	L3
PC5	Monitor the implementation of risk control measures		L4	L4	L4	L4	L4
PC6	Assure and control the quality of project control activities		L4			L4	L4
PC7	Apply quality assurance procedures to project control activities		L3			L3	
PC8	Retrieve, record and present project control information	L3	L3	L3		L3	L3
PC9	Acquire and handle information needed for project control	L4	L4	L4	L4	L4	L4
PC10	Provide advice and support to maintain progress		L4		L4	L4	L4
PC11	Manage the project control team — agree objectives with teams and individuals		L4		L4		L4
PC12	Manage the project control team — allocate work		L4				L4
PC13	Manage the continuing development of your personal and project control professional skills		L4		L4		L4
PC14	Develop yourself in the project control work role		L3		L3		L3
PC15	Develop the skills of your project control team members		L4		L4		L4
PC16	Develop and maintain effective working relationships		L4		L4	L4	L4
PC17	Contribute to effective project working relationships		L3		L3	L3	L3
PC18	Observe and apply professional ethics and values		L3				L3
PC19	Plan and implement project control operational developments	L4	L4	L4	L4	L4	L4
PC20	Determine the requirements for project control		L4			L4	L4
PC21	Estimate and specify financial resources	L4	L4	L4			L4
PC22	Develop the project programme	L4	L4	L4			L4
PC23	Establish project procurement requirements		L4			L4	L4
PC24	Prepare project cost estimates	L3	L3	L3			
PC25	Prepare the project programme	L3	L3	L3			
PC26	Plan the project procurement activities		L3				L3
PC27	Establish procedures, methods and systems		L4	L4			L4
PC28	Apply procedures, methods and systems		L3	L3			L3
PC29	Develop commercial control procedures		L4				L4
PC30	Develop the work breakdown and coding structures		L4	L4			L4
PC31	Establish project control budgets	L4	L4	L4			L4
PC32	Establish project control programmes and schedules		L4	L4			L4
PC33	Prepare project control budgets	L3	L3	L3			
PC34	Prepare project control programmes and schedules		L3	L3			L3
PC35	Monitor, control and report on exposure, commitment and expenditure	L4	L4	L4		L4	L4
PC36	Carry out project cost control activities	L3	L3	L3		L3	L3
PC37	Monitor, control and report on project progress	L4	L4	L4		L4	L4
PC38	Carry out project scheduling activities	L3	L3	L3		L3	
PC39	Select tenderers and obtain estimates, bids and tenders		L4				L4
PC40	Evaluate and select successful bids from tenderers		L4				L4
PC41	Prepare the commercial aspects of bid and tender offers		L4			L4	L4
PC42	Conclude arrangements for the supply of subcontracts, goods, materials and services						L4
PC43	Forecast the use of project financial resources	L4	L4	L4			
PC44	Forecast the project schedule achievement	L4	L4	L4			
PC45	Calculate the financial outcomes of activities	L3	L3	L3			L3
PC46	Calculate activity completion data	L3	L3	L3			
PC47	Evaluate the information and prepare claim submissions		L4				L4
PC48	Provide commercial support to the agreement of claims		L4			L4	L4
PC49	Identify and quantify emerging changes		L4			L4	L4
PC50	Ensure the completion of project control activities		L4				
PC51	Evaluate project controls performance and project information and data		L4		L4	L4	L4

Core Skills Signposting		Numeracy	Communication	Information Technology	Problem solving	Working with others
Unit Number	Unit Title					
PC1	Oversee the application of information technology (IT) to project control		Higher	Higher	Higher	Higher
PC2	Apply information technology (IT) to project control		Inter 2	Inter 2		Inter 2
PC3	Identify risks and evaluate options for their control	Higher	Higher	Higher	Higher	Higher
PC4	Monitor risks and review contingencies	Inter 2	Inter 2	Inter 2	Inter 2	Inter 2
PC5	Monitor the implementation of risk control measures		Higher	Higher	Higher	Higher
PC6	Assure and control the quality of project control activities		Higher		Higher	Higher
PC7	Apply quality assurance procedures to project control activities		Inter 2		Inter 2	Inter 2
PC8	Retrieve, record and present project control information	Inter 2	Inter 2	Inter 2	Inter 2	Inter 2
PC9	Acquire and handle information needed for project control	Higher	Higher	Higher	Higher	Higher
PC10	Provide advice and support to maintain progress		Higher		Higher	Higher
PC11	Manage the project control team — agree objectives with teams and individuals		Higher			Higher
PC12	Manage the project control team — allocate work		Higher			Higher
PC13	Manage the continuing development of your personal and project control professional skills		Higher			Higher
PC14	Develop yourself in the project control work role		Inter 2			Inter 2
PC15	Develop the skills of your project control team members		Higher			Higher
PC16	Develop and maintain effective working relationships		Higher		Higher	Higher
PC17	Contribute to effective project working relationships		Inter 2		Inter 2	Inter 2
PC18	Observe and apply professional ethics and values		Inter 2			Inter 2
PC19	Plan and implement project control operational developments	Higher	Higher	Higher	Higher	Higher
PC20	Determine the requirements for project control		Higher		Higher	Higher
PC21	Estimate and specify financial resources	Higher	Higher	Higher		Higher
PC22	Develop the project programme	Higher	Higher	Higher		Higher
PC23	Establish project procurement requirements		Higher		Higher	Higher
PC24	Prepare project cost estimates	Inter 2	Inter 2	Inter 2		Inter 2
PC25	Prepare the project programme	Inter 2	Inter 2	Inter 2		Inter 2
PC26	Plan the project procurement activities		Inter 2			Inter 2
PC27	Establish procedures, methods and systems		Higher	Higher		Higher
PC28	Apply procedures, methods and systems		Inter 2	Inter 2		Inter 2
PC29	Develop commercial control procedures		Higher			Higher
PC30	Develop the work breakdown and coding structures		Higher	Higher		Higher
PC31	Establish project control budgets	Higher	Higher	Higher		Higher
PC32	Establish project control programmes and schedules		Higher	Higher		Higher
PC33	Prepare project control budgets	Inter 2	Inter 2	Inter 2		Inter 2
PC34	Prepare project control programmes and schedules		Inter 2	Inter 2		Inter 2
PC35	Monitor, control and report on exposure, commitment and expenditure	Higher	Higher	Higher	Higher	Higher
PC36	Carry out project cost control activities	Inter 2	Inter 2	Inter 2	Inter 2	Inter 2
PC37	Monitor, control and report on project progress	Higher	Higher	Higher	Higher	Higher
PC38	Carry out project scheduling activities	Inter 2	Inter 2	Inter 2	Inter 2	Inter 2
PC39	Select tenderers and obtain estimates, bids and tenders		Higher			Higher
PC40	Evaluate and select successful bids from tenderers		Higher			Higher
PC41	Prepare the commercial aspects of bid and tender offers		Higher		Higher	Higher
PC42	Conclude arrangements for the supply of subcontracts, goods, materials and services					Higher
PC43	Forecast the use of project financial resources	Higher	Higher	Higher		
PC44	Forecast the project schedule achievement	Higher	Higher	Higher		
PC45	Calculate the financial outcomes of activities	Inter 2	Inter 2	Inter 2		Inter 2
PC46	Calculate activity completion data	Inter 2	Inter 2	Inter 2		
PC47	Evaluate the information and prepare claim submissions		Higher			Higher
PC48	Provide commercial support to the agreement of claims		Higher		Higher	Higher
PC49	Identify and quantify emerging changes		Higher		Higher	Higher
PC50	Ensure the completion of project control activities		Higher			
PC51	Evaluate project controls performance and project information and data		Higher		Higher	Higher