Capital Works Management Framework

Guidance Note

Project Review on Completion

GN 4.1

Project Review on Completion Guidance Notes
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Contents

Foreword

Purpose of this document

This document is one of a number of guidance notes aimed at facilitating the implementation of the Government's reforms in construction procurement. Its purpose is to give an overview of **Project Review on Completion** which is the final stage of the management of capital works projects.

Project Review on Completion covers a range of activities that have as their end goal the comprehensive description of the end of project status for the benefit of future projects. These activities are conducted in a systematic, rigorous and formal manner, and lead to defined outcomes in the form of the **End-of-Project Report**.

This document is also intended as a strategic resource for the wider public sector.

Audience for this document

This document is intended primarily for the guidance of Sponsoring Agencies embarking on traditional and design-and-build projects. It should be promoted by Sanctioning Authorities as best practice for Sponsoring Agencies to follow at the Project Review on Completion stage when assessing the results of the project.

While many of the principles in this document apply equally to projects that are to be financed through Public-Private Partnerships, the planning of such projects is outside the scope of this guidance note.

References in this document

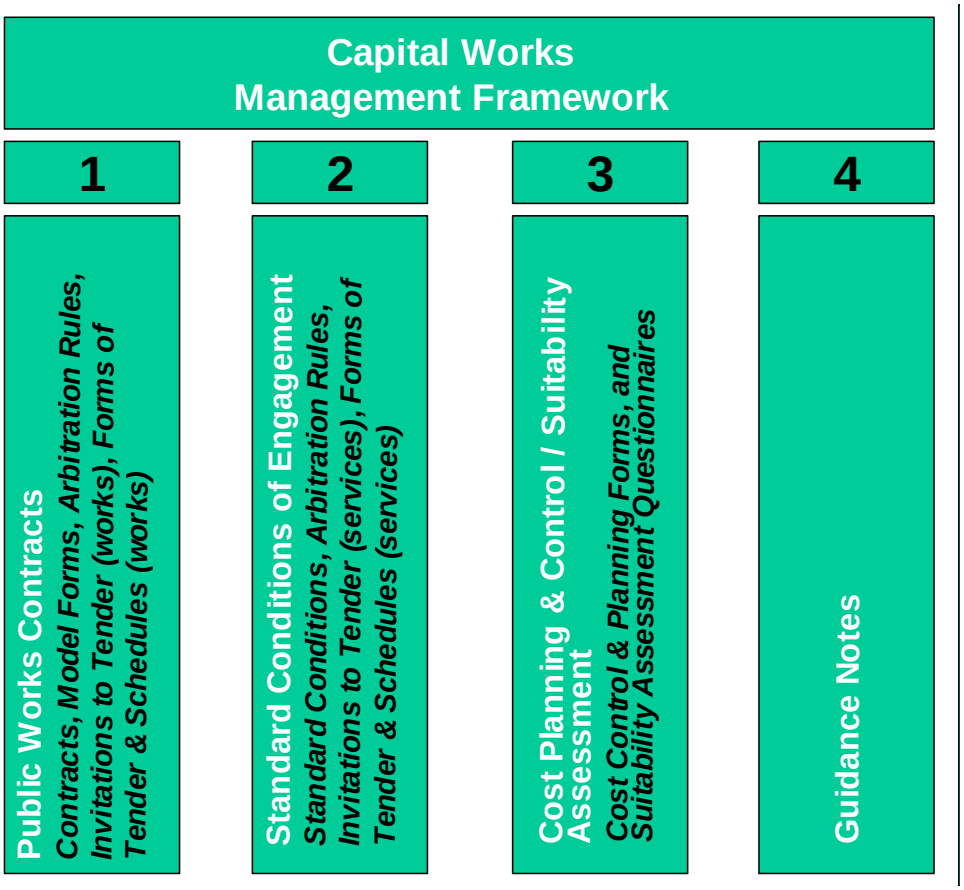
Throughout this document references are made to other documents, including other guidance notes. These references should be understood as referring to the most up to date version in each case.

Continued on next page

What is the Capital Works Management Framework

The Capital Works Management Framework (CWMF) is a structure that has been developed to deliver the Government's objectives in relation to public sector construction procurement reform. It consists of a suite of best practice guidance, standard contracts and generic template documents that form four pillars that support the Framework; the pillars are:

1. A suite of standard forms of construction contracts and associated model forms, dispute resolution rules, model invitations to tender, forms of tender and schedules;
2. The standard conditions of engagement for consultants, dispute resolution rules, model invitations to tender, forms of tender and schedules;
3. Standard templates to record cost planning and control information; and for suitability assessment; and
4. Extensive guidance notes covering the various activities in a project delivery process.



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What is the Capital Works Management Framework (continued)

The content of the four pillars is outlined below. The constituent documents are coded according to the following scheme:

Code	Description	Code	Description
PW-CF	Public Works Contract Form	COE	Standard Conditions of Engagement
MF	Model Form	GN	Guidance Note
AR	Arbitration Rules	CO	Cost Planning / Control Form
ITTS	Invitation To Tender, Services	ITTW	Invitation To Tender, Works
QC	Questionnaire: Suitability Assessment for Service Provider	QW	Questionnaire: Suitability Assessment for Works Contractor
FTS	Form of Tender and Schedule	GL	Glossary
WE	Data on Weather Event		

CWMF Pillar 1 *Public Works Contracts*

Contracts, Model Forms, Arbitration Rules, Invitations to Tender (works), and Forms of Tender & Schedules (works)

Contracts	
PW-CF1	Public Works Contract for Building Works designed by the Employer
PW-CF2	Public Works Contract for Building Works designed by the Contractor
PW-CF3	Public Works Contract for Civil Engineering Works designed by the Employer
PW-CF4	Public Works Contract for Civil Engineering Works designed by the Contractor
PW-CF5	Public Works Contract for Minor Building and Civil Engineering works designed by the Employer
PW-CF6	Public Works Short Form of Contract
PW-CF7	Public Works Investigation Contract
PW-CF8	Public Works Short Form of Investigation Contract
PW-CF9	Public Works Framework Agreement
Weather Event	
WE 1.0	Met Éireann's calculations of Weather Events

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CWMF Pillar 1
(continued)

Model Forms	
MF 1.0	*Model Forms (compendium of all model forms)*
MF 1.1	*Bid Bond*
MF 1.2	*Letter to Apparently Unsuccessful Tenderer*
MF 1.3	*Letter of Intent*
MF 1.4	*Letter of Acceptance*
MF 1.5	*Letter to Tenderers Notifying Award*
MF 1.6	*Performance Bond*
MF 1.7	*Parent Company Guarantee*
MF 1.8	*Novation and Guarantee Agreement*
MF 1.9	*Novation Agreement*
MF 1.10	*Appointment of Project Supervisor*
MF 1.11	*Professional Indemnity Insurance Certificate*
MF 1.12	*Collateral Warranty*
MF 1.13	*Rates of Pay and Conditions of Employment Certificate*
MF 1.14	*Bond – Unfixed Works Items*
MF 1.15	*Retention Bond*
MF 1.16	*Appointment of Conciliator*
MF 1.17	*Bond – Conciliator's Recommendation*
Arbitration Rules	
AR 1.0	*Arbitration Rules*
Invitations to Tender (works)	
ITTW 1	*Invitation to Tender for Works, Restricted Procedure*
ITTW 2	*Invitation to Tender for Works, Open Procedure*
ITTW 3	*Invitation to Tender, Investigation Contract under an Open Procedure*
Forms of Tender and Schedules	
FTS 1	*Form of Tender and Schedule: Public Works Contract for Building Works designed by the Employer*
FTS 2	*Form of Tender and Schedule: Public Works Contract for Building Works designed by the Contractor*
FTS 3	*Form of Tender and Schedule: Public Works Contract for Civil Engineering Works designed by the Employer*
FTS 4	*Form of Tender and Schedule: Public Works Contract for Civil Engineering Works designed by the Contractor*
FTS 5	*Form of Tender and Schedule: Public Works Contract for Minor Building and Civil Engineering Works designed by the Employer*
FTS 6	*Form of Tender and Schedule: Public Works Short Form of Contract*
FTS 7	*Form of Tender and Schedule: Public Works Investigation Contract*
FTS 8	*Form of Tender and Schedule: Public Works Short Form of Investigation Contract*

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CWMF Pillar 2 ***Standard Conditions***

Standard Conditions of Engagement, Arbitration Rules, Invitations to Tender (services), and Forms of Tender & Schedules (services).

Standard Conditions	
COE 1	*Standard Conditions of Engagement for Consultancy Services (Technical)*
COE 2	*Standard Conditions of Engagement for Archaeology Services*
Arbitration Rules	
AR 1.0	*Arbitration Rules*
Invitations to Tender (services)	
ITTS 1	*Invitation to Tender for Services, Restricted Procedure*
ITTS 2	*Invitation to Tender for Services, Open Procedure*
Forms of Tender & Schedule (services)	
FTS 9	*Form of Tender and Schedule, Consultancy Services (Technical)*
FTS 10	*Form of Tender and Schedule, Archaeology Services*

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CWMF Pillar 3 ***Cost Planning & Control/ Suitability Assessment***

Cost Control & Planning Forms; and Suitability Assessment Forms for works and services.

Cost Planning & Control Forms	
CO 1	*How to Use the Costing Document (Building Works) Template*
CO 1.1	*Costing Document (Building Works)*
CO 2	*How to Use the Costing Document (Civil Engineering Works) Template*
CO 2.1	*Costing Document (Civil Engineering Works, Roads)*
CO 2.2	*Costing Document (Civil Engineering Works, Water Sector)*
CO 2.3	*Costing Document (Civil Engineering Works, Marine)*
Suitability Questionnaires (works)	
QW 1	*Questionnaire: Suitability Assessment for Works Contractor, Restricted Procedure*
QW 2	*Questionnaire: Suitability Assessment for Works Contractor, Open Procedure*
QW 3	*Questionnaire: Suitability Assessment for Works Specialist for specialist area*
Suitability Questionnaires (services)	
QC 1	*Questionnaire: Suitability Assessment for Service Provider, Restricted Procedure*
QC 2	*Questionnaire: Suitability Assessment for Service Provider, Open Procedure*
QC 3	*Questionnaire: Suitability Assessment for Service Provider, Independent PSDP*
QC 4	*Questionnaire: Suitability Assessment for Service Provider, Independent PSCS*

Continued on next page

CWMF Pillar 4 — *Guidance Notes*

Guidance Notes	
GN 1.0	Introduction to the Capital Works Management Framework
GN 1.1	Project Management
GN 1.2	Project Definition and Development of the Definitive Project Brief
GN 1.3	Budget Development
GN 1.4	Procurement and Contract Strategy for Public Works Contracts
GN 1.5	Public Works Contracts
GN 1.6	Procurement Process for Consultancy Services (Technical)
GN 1.6.1	Suitability Assessment of Construction Service Providers, Restricted Procedure
GN 1.6.2	Suitability Assessment of Construction Service Providers, Open Procedure
GN 1.7	Standard Conditions of Engagement, Guidance Note and Sample Schedules
GN 2.1	Design Development Process
GN 2.2	Planning and Control of Capital Costs
GN 2.3	Procurement Process for Works Contractors
GN 2.3.1	Suitability Assessment of Works Contractors, Restricted Procedure
GN 2.3.2	Suitability Assessment of Works Contractors, Open Procedure
GN 3.1	Implementation Process
GN 4.1	**Project Review**[1]
Glossary	
GL 1.0	Glossary

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[1] The current guidance note.

Stages in capital works management

The four major stages in the delivery life cycle of a public works project are set out in the Department of Finance's *Guidelines for the Appraisal and Management of Capital Expenditure Proposals in the Public Sector* (February 2005). The four stages are:

	Stage	What happens
Capital Works Management	**1. Appraisal**	The needs are identified, the broad parameters of a solution are agreed, and a decision-in-principle is made to proceed.
	2. Planning	The needs are quantified and assumptions verified, the desired outputs are specified, and the solution is designed.
	3. Implementation	The solution is constructed.
	4. Project review	An assessment is carried out of how successfully the delivered solution addresses the needs.

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Strategic Objectives of the CWMF

The strategic objectives of the Government's Capital Works Management Framework are to ensure:

- Greater cost certainty at contract award stage;
- Better value for money at all stages during project delivery, particularly at handover stage; and
- More efficient end-user delivery.

Provided there is a comprehensive definition of the Client's requirements in terms of output specifications, and adequate pre-tender detail design input (in the cast of traditional contracts), the new public works contracts will enable the key objectives outlined above be achieved. The degree to which output specifications and the pre-tender detailed design input is developed is determined by the following guiding principles which underpin the new contracts:

- To ensure as far as practicable that the accepted tender prices and the final outturn costs are the same; and
- To allocate risk so that there is optimal transfer of risk to the Contractor.

The public sector Client or is called 'the Employer' in the new public works contracts. The achievement of optimal risk transfer is dependent on the Employer providing complete and detailed information in the tender documentation:

- For design-and-build projects, the Employer must provide detailed output specifications; and
- For traditional projects, the Employer must provide comprehensive input designs and specifications

Then in responding to an invitation to tender, prospective contractors can assess the impact of the risks being transferred and build the costs of such risks into their tender price.

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Foreword, Continued, Continued

Content

This document is divided into three chapters and an appendix, as follows:

Capital Works Management Framework

Main Project Processes

Project Stages		Project Management	Design Activities (Building)	Design Activities (Civil Eng.)	Cost Control Activities	Risk and Value Management	Documents for Approval
Appraisal							
Approval in Principle							
Stage 1 ***Planning Initial***	**Stage (i)** ***Feasibility Study / Preliminary Report***	**Manage outputs: Project Definition (through 16 Nº overall parameters)** **Manage technical experts' appointment (if required)**	Conduct Feasibility Studies Develop *Definitive Project Brief* Appoint technical experts (if required) Appoint PSDP (if required)	Conduct Preliminary Report Conduct design studies Develop *Definitive Project Brief* Appoint technical experts (if required) Appoint PSDP (if required)	Conduct cost assessment of Feasibility Studies / Preliminary Report (capital and maintenance costs)	**VM:** Confirm strategic functional performance Review Feasibility Studies / Preliminary Report options Identify VM strategies Develop functional performance model **RM:** Identify and assess risk relating to the *Project Execution Plan* Develop high-level *Risk Management Plan*	*Project Management Structure* *Preliminary Project Brief* *Preliminary Output Specification* *Feasibility Study and Cost Plan* *Design Brief* *Final Output Specification* *Definitive Project Brief* *Project Execution Plan* *Risk Management Plan*
	Stage (ii) ***Design***	***Project Review 1: Confirm approval for design expenditure*** (Report to Sanctioning Authority and await approval prior to proceeding)					
		Manage procurement strategy **Manage design consultant appointment** **Manage assessment of output requirements**	Appoint Design Team / Design Team Leader Assess output requirements	Appoint Design Team / Lead Consultant Develop design standards Assess output requirements	Check / assess budget	**VM:** Consider VM in relation to procurement strategy **RM:** Identify risk in relation to procurement Agree risk allocation	*Definitive Procurement Strategy* *Contract Type Proposal* *Project Team Selection Report*
Stage 2 ***Planning Developed***		***Project Review 2: Confirm requirements; review procurement strategy*** (C ertify compliance to Sanctioning Authority; and proceed after agreed period provided no queries / hold from Sanctioning Authority)					
		Manage Outline Design process	Develop *Outline Sketch Scheme* Appoint PSDP (if not appointed earlier)	Develop Preliminary Planning Appoint PSDP (if not appointed earlier)	Develop *Outline Cost Plan*	VM: Consider VM in relation to Outline Sketch Scheme / Preliminary Planning RM: Consider RM in relation to Outline Sketch Scheme	*Outline Sketch Scheme (Building)* *Preliminary Planning drawings (C. Eng.)* *Outline Cost Plan*
		Project Review 3: Assess project design and Outline Cost Plan (Certify compliance to Sanctioning Authority; and proceed after agreed period provided no queries / hold from Sanctioning Authority)					
		Manage Developed Design process **Manage procurement process**	Develop *Developed Sketch Scheme* Prepare submission for statutory approval	Continue Preliminary Planning Prepare submission for statutory approval	Develop *Developed Cost Plan* Develop *Whole Life Cost Appraisal*	**VM:** Carry out value engineering Assess buildability of the design Consider VM in relation to *Detailed Sketch Scheme* **RM:** Identify residual risks Consider RM in relation to *Detailed Sketch Scheme* Suitability assessment of contractors	*Developed Sketch Scheme* *Developed Cost Plan* *Statutory Approval Submission*
		Project Review 4: Assess project prior to statutory approval (Report to Sanctioning Authority and await approval prior to proceeding)					
		Manage statutory submission process	Submit for statutory approval Review statutory approval outcome	Submit for statutory approval Review statutory approval outcome	Review *Developed Cost Plan*	**VM:** Review any planning conditions for value management impact. **RM:** Review any planning conditions for risk impact.	*Developed Cost Plan (reviewed)*
		Project Review 5: Assess outcome from statutory approval (Certify compliance to Sanctioning Authority; and proceed after agreed period provided no queries / hold from Sanctioning Authority)					
	Stage (iii) ***Tender***	**Manage the Detailed Design Process**	Develop Detailed Design (not design-and-build) Prepare tender documents	Develop Detailed Planning (Design) (not design-and-build) Prepare tender documents	Conduct *Detailed and Pre-Tender Cost Checks* and *Whole Life Cost Update* in advance of preparing tender documents	**VM:** Review suitability assessment of contractors for VM potential **RM:** Review suitability assessment of contractors for risk impact	*Tender Documentation* *Detailed Pre-tender Cost Check* *Whole Life Cost Update* *Contractor List Selection*
		Project Review 6: Approve detailed design solution; review pre-tender cost check; review risk (Report to Sanctioning Authority and await approval prior to proceeding)					
		Manage the Tender Process	Issue tender documents Assess tender returns Recommend successful tenderer	Issue tender documents Assess tender returns Recommend successful tenderer	Develop *Tender Cost Analysis* Develop *Tender Report*	**VM:** Assess tender returns for VM potential **RM:** Assess tender returns for risk impact	*Tender Assessment Criteria* *Tender Analysis And Report* *Contractor Recommendation*
		Project Review 7: Review tender returns in advance of awarding the contract (Report to Sanctioning Authority and await approval prior to proceeding)					
Stage 3 ***Implementation***	**Stages (iv)** ***Construction &*** **(v)** ***Handover***	**Manage the implementation / construction process** **Manage change control** **Manage contract**	Develop Detailed Design (Design and Build) Implement design	Develop Detailed Planning (Design and Build) Implement design	Manage change control for costs Prepare final account	**VM:** Carry out value engineering (for design and build projects only) **RM:** Manage residual risk Manage construction risk	Various contract management reports
Stage 4 ***Review***		**Manage the Project Review on Completion**	Conduct design review	Conduct design review	Develop *Analysis of Outturn Cost*	**VM:** Evaluate value achieved **RM:** Evaluate the risk management and risk mitigation process Consider operational risk reviews	*Project Outturn Review*

Capital Appraisal

Standard Conditions of Engagement

Design and Build

1. Overview of Project Review on Completion

1.1 Introduction

Importance of project definition

Project definition is the single most important exercise in the design process; and when clear project objectives have been set, the basis for a-Project Review on Completion can easily be established. The importance of the role of the project definition is outlined in *Project Definition and Development of the Definitive Project Brief* (GN1.2).

Benefits of good planning

Good planning takes time and effort, but brings significant benefits, as outlined in *Project Management* (GN1.1). The basis for a successful Project Review on Completion is laid in the course of project management from the beginning of a project. Plans for Project Review on Completion should be documented in the Project Execution Plan – see the sample in Appendix A of *Project Management* (GN1.1). The efficiency of the Project Review on Completion will be greatly enhanced by the quality of the communications plan and records kept throughout the project. Commitment to achieving continuous improvement is also important as outlined in Chapter 8 of *Project Management* (GN1.1).

This chapter presents an overview of Project Review on Completion planning and the activities it involves.

1.2 Success Criteria and Measurement

Overall objectives

A fundamental aim of the Capital Works Management Framework is to achieve continuous performance improvement, both within projects, and from one project to the next. Fundamental to this objective is a review procedure that can:

- Measure performance in capital projects;
- Determine where improvements in effectiveness, efficiency and quality are required; and
- Record lessons for future projects.

Defining success criteria

It is essential that a project's success criteria are clearly defined and agreed on at the beginning of the project. The Project Coordinator or Project Manager must facilitate this. The criteria for success can be defined through:

- Business objectives;
- Technical performance / requirements; and
- Measurable key performance indicators such as cost, time, quality, experience etc.

An early value management workshop (or something similar), should be used to establish these criteria, and should be encouraged as a way of obtaining commitment and agreement from all parties.

The success criteria should be incorporated into the Project Execution Plan (PEP) and developed through project definition and the Definitive Project Brief.

Measuring Success Criteria

Success criteria must be measurable, and the measurement and method of measurement must be stated. Quantitative performance measurements include:

- Cost outcome (budget predictability);
- Number of defects (construction quality) ; and
- Accident number, frequency and severity (Health and Safety).

Client satisfaction can also be measured in terms of service and product. User satisfaction measurements can be devised in terms of 'fitness for purpose'.

Success criteria are not the same as acceptance criteria which are used to gauge acceptance of completed product at project handover.

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1.2 Success Criteria and Measurement, Continued

End-of-project report

The PEP includes a communications plan which details all of the project reporting requirements, reviews and meetings; including those associated with Project Review on Completion. The end-of-project report usually summarises the Project Review on Completion and involves the following tasks:

- Reviewing project performance against the objectives and success criteria detailed in the Project Brief;
- Reviewing project performance in relation to the planned time and cost;
- Reviewing the status of any outstanding issues and recommending follow-on actions;
- Assessing the positive and negative impact of approved changes;
- Reviewing the Lessons Learned Log and considering what can be done differently on future projects;
- Referencing any other documentation resulting from the end of project review procedure – for example, design review, analysis of outturn costs, contract performance reviews, and value and risk management reviews.

Timing, Participation and Format

The Sanctioning Authority should request the Sponsoring Agency to conduct the Project Review on Completion within 12 months of project completion.

It is essential to hold the Project Review on Completion soon after the project is closed so that detailed information is not lost or forgotten. All major shareholders should be represented.

The review may take the form of questionnaires, workshops and reports on specific areas (for example, Design), but it should be summarised in the End-of-Project Report.

1.3 Project Evaluation

Project Evaluation and Feedback

Effective project management (including managing improvement within organisations and across programmes), involves performance evaluation of the project and feedback of project participants both during the project and after project completion.

Benchmarking

Benchmarking is a management tool to help clients and supplier organisations understand how their performance compares to that of their peers and to drive improvements in processes and outputs.

Looking outwards

Clients and project teams should be outward looking, recognising that there is much to gain from sharing experiences, comparing performances or using innovative approaches to solving a problem.

Projects within a programme

Where an organisation has a programme of similar projects, there should be mechanisms in place to help drive continuous improvement from one project to the next.

Project parameters

There are sixteen project parameters included in the Definitive Project Brief (refer to *Project Definition and Development of the Definitive Project Brief*, GN1.2). Any or all of these parameters may be used as a basis for project evaluation.

1.4 Performance Evaluation

Performance measurement of individual parties

As well as measuring overall project performance, the performance of each party should be measured.

The purpose of measuring individual performance is to facilitate improved performance in the future, not to berate a party for poor performance or to allocate blame for project failure.

Client performance

Client bodies also need to measure their own performance and use benchmarking against other clients, to identify areas for improvement.

Contract performance

All works contractors and consultants should be assessed in accordance with the performance and timeframe details contained in their contract.

These assessments are standardised for ease of comparison and may subsequently be used as reference material in relation to suitability assessment of the contractor for future projects.

2. Performance Evaluation

2.1 Introduction

Introduction

This chapter covers the two main types of performance evaluation associated with public works and service contracts.

2.2 Performance – Works Contractors

Introduction

At the end of the Defects Period as stated in Schedule part 1I and in accordance with Clause 8.6 of PW-CF1 to PW-CF5, the Contractor's performance should be assessed by the Contracting Authority.

The performance assessment process must be in compliance with Article 48 of Directive 2004/18/EC and Regulation 57 of SI No 329 of 2006 European Communities (Award of Public Authorities Contracts) Regulations 2006 and Article 54 of Directive 2004/17/EC and Regulation 56 of SI No 50 of 2007 European Communities (Award of Contracts by Utility Undertakings) Regulations 2007.

End-of-Project Assessment

The areas under which the performance assessment may be conducted in accordance with the foregoing Directives are:

Condition	Description
1	Whether the project was carried out in accordance with the rules of the relevant trade and was properly completed. Properly completed can mean any or all of the following:

Quality	▪ Were all defects rectified? ▪ Was the facility constructed to specification? ▪ Were competent tradesmen/skilled workers employer to carry out the work? ▪ Were specialist works completed properly?
Time	▪ Was the project delivered on time ▪ Were liquidated damages under sub-clause 9.8 of PW-CF1 to PW-CF5 instituted?
Cooperation	▪ Did the contractor and his personnel (including Specialists) support reciprocal co-operation for the Contract purposes as specified under sub-clause 4.1 of PW-CF1 to PW-CF5?
Programme	▪ Was the programme kept up to date as required by sub-clause 4.9 of PW-CF1 to PW-CF5?
Communications	▪ Were all communications with the contractor and his personnel interpreted purposefully, having regard to the Contract's purposes as required by sub-clause 4.14 of PW-CF1 to PW-CF5?

Note: The references above to clauses in PW-CF1 to PW-CF5 does not mean that such assessment should not also be required for projects where the Short Form (PW-CF6) or the Investigation Contracts (PW-CF7 and PW-CF8) are used..

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2.2 Performance – Works Contractors, Continued

End-of-Project Assessment (continued)

Condition	Description
2	The effectiveness of those (either in-house of outsourced) with responsibility of carrying out quality control.
3	The effectiveness and technical skills of management of both the contractor and the contractor's personnel who have acceptable educational and professional qualifications and experience to construct the works.
4	The effectiveness of the manpower resource employed on the project to construct the works
5	The effectiveness of the plant engaged on the project and length of time it was engaged to construct the works.

The end-of-project review should include a commentary on each of the five conditions above so that this information is available for future reference by the Contracting Authority where a new project is being put out to tender.

Note: Comments on conditions 2 to 5 above are for the Contracting Authority's own use. Comments on condition 1 should be included in a Certificate of Satisfactory Execution and may be shared with third parties (i.e. other Contracting Authorities) provided permission from the contractor is obtained beforehand (see below for details).

Suitability Assessment prior to new project

The assessment of the contractor's performance at the end of a project may subsequently form the basis of a response to certain suitability assessment criteria for future projects. Such an assessment may be used to determine if the contractor meets the standard required to be considered further (to participate in tender competition in the case of a restricted procedure), or to have its tender submission moved forward to the tender evaluation stage (in case of an open procedure).

Requirements in relation to condition 1 on page 21 are either :

a) included in the standard Certificate of Satisfactory Execution form which is supplied in an appendix to the Suitability Assessment Questionnaire; or

b) may be included under the criterion 3.4.c at '*CA Entry: supplementary requirements (if any) in relation to this criterion'* and responded to by the applicant / candidate filling in the reply to the requirements in the Certificate of Satisfactory Execution before submission.

2.3 Performance - Consultants

Introduction

At the end of the Total Performance Period in Schedule A and in accordance with sub-clause 4.6 of the *Standard Conditions of Engagement for Consultancy Services (Technical)* (COE 1) the consultant's performance should be assessed by the Contracting Authority. The consultant will be aware from the provision in sub-clause 2(5) of the *Standard Conditions* that this can happen. This assessment should be carried out on all consultants engaged in providing technical services on a project.

The performance assessment process must be in compliance with the following:

- Article 48 of Directive 2004/18/EC;
- Regulation 57 of SI No 329 of 2006 European Communities (Award of Public Authorities Contracts) Regulations 2006;
- Article 54 of Directive 2004/17/EC; and
- Regulation 56 of SI No 50 of 2007 European Communities (Award of Contracts by Utility Undertakings) Regulations 2007.

End-of-Project Assessment

The headings under which the performance assessment may be conducted in accordance with the foregoing Directives are:

<table>
<tr><th>Condition</th><th>Description</th></tr>
<tr><td>1</td><td>Evidence of how the services provided addressed issues such as the following:
<table>
<tr><td>Quality</td><td>The level of input of technical and intellectual skills that the consultant provided during the Planning and Implementation stages of the project.</td></tr>
<tr><td>Time</td><td>The degree of adherence to the Performance Periods for delivery of service from 'permission to start' as set out in the Schedule B Stage Technical Services of the Standard Conditions (COE 1).</td></tr>
<tr><td>Cooperation</td><td>Whether the consultant supported reciprocal co-operation for the Contract purposes as specified under clause 8 of the Conditions of Engagement.</td></tr>
<tr><td>Communications</td><td>Whether all communications with the consultant were interpreted purposefully, having regard to the Contract's purposes as required by clause 6 of the Standard Conditions (COE 1).</td></tr>
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Note: In addition to the foregoing the review should also under this heading provide information on the (sums) value of the fees, the date and the recipient of the service

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2.3 Performance - Consultants, Continued

End-of-Project Assessment (continued)

Condition	Description
2	The effectiveness of those (either in-house or outsourced) with responsibility of carrying quality control.
3	The effectiveness and technical skills of management of the consultant with acceptable educational and professional qualifications and experience to deliver the service.
4	The effectiveness of the manpower resource employed to deliver the service.
5	The effectiveness of the technical equipment engaged on the project and length of time it was engaged to deliver the service.
6	In the case of a dispute the robustness of the case and supporting documentation defending the case

The end-of-project review should include a commentary on each of the five conditions above so that this information is available for future reference by the Contracting Authority where a new project is being put out to tender.

Note: Comments on conditions 2 to 5 above are for the Contracting Authority's own use. Comments on condition 1 should be included in a Certificate of Satisfactory Execution and may be shared with third parties (i.e. other Contracting Authorities) provided permission from the consultant is obtained beforehand (see below for details).

Suitability Assessment prior to new project

The assessment of the consultant's performance at the end of a project may subsequently form the basis of a response to certain suitability assessment criteria for future projects. Such an assessment may be used to determine if the consultant meets the standard required to be considered further (to participate in tender competition in the case of a restricted procedure), or to have its tender submission moved forward to the tender evaluation stage (in case of an open procedure).

Requirements in relation to condition 1 on page 21 are either :

a) included in the standard Certificate of Satisfactory Execution form which is supplied in an appendix to the Suitability Assessment Questionnaire; or

b) may be included under the criterion 3.4.c at '*CA Entry: supplementary requirements (if any) in relation to this criterion'* and responded to by the applicant / candidate filling in the reply to the requirements in the Certificate of Satisfactory Execution before submission.

3: Analysis of Outturn Costs

3.1 Introduction

Introduction

This chapter covers analysis of outturn costs from the main contract award through to project completion.

3.2 Collecting and Profiling Cost Data

Purpose

In the Analysis of Outturn Costs, the project's costs that have been developed through previous cost planning and control activities (see *Planning and Control of Capital Costs*, GN 2.2) are examined again in the light of final project costs.

All information required for the analysis of final costs, should be defined and provided as clearly and efficiently as possible at this stage. Issues, assumptions and relevant research gathered from earlier analysis should be clearly presented.

The Analysis of Outturn Costs report should explain what was expected and when, and it should set out any differences clearly and unambiguously. The goal is to assist future budgets to be adequate to deliver proposed facilities in a fully functioning condition.

Scope

The cost analysis element of the project review on completion should examine;

- Contract Outturn Cost
- "Other" Costs

The Final Outturn Cost for a Contract can be defined as the Contract Sum adjusted in accordance with the terms of the Contract including Change Orders and Compensation Events approved under the contract.

The Sponsoring Agency should analyse the outturn costs of "other costs" outside of those related to the construction contract capital cost. These costs would include, but are not limited to, Professional Fees, Local Authority and other Utility Fees and Contributions and Site Acquisition.

The guidance note *Budget Development* (GN 1.3) sets out the constituent parts of the Project Budget. In addition to the Construction Costs the Other Costs should similarly be categorized and tracked through the progress of the project culminating in completion as part of the Analysis of Outturn Costs.

It is not intended to detail here the methodology and \ or format of such analysis. But the classification of Other Costs for similar projects (see *Budget Development*, Appendix A Budget Template for Building Projects and Appendix B Budget Template for Civil Engineering Projects) should be standardized across all sectors to facilitate inter-departmental comparisons.

Continued on next page

3.2 Collecting and Profiling Cost Data, Continued

Method

The Sponsoring Agencies should collect cost data in the format prescribed by the Sanctioning Authority. The format and presentation of the data required by CWMF guidance should be customised by the Sanctioning Authority to suit the various project sectors whilst also facilitating inter-agency cost comparisons. The Sanctioning Authority should regularly collate cost data received from the various agencies and generate national and sectoral cost profiles to aid the future cost planning of projects.

The basic rules on how different costs are allocated to the various cost holding categories in a public works project during the Planning Stage continue to apply to the cost changes incurred at Implementation Stage. Such rules are necessary because when the basic cost data for one project is being compared with that of another it is important that the comparison is being made on like-for-like basis.

However, before such comparisons are made it may be necessary to make some adjustments to the data to deal with factors such as proportionality (i.e. quantity), location, quality and price. At the end of this process the resultant cost information forms the benchmark material that is used in the development of budgets at a very early stage (i.e. appraisal stage) for new projects.

Maintaining Historical Cost Data

Sanctioning Authorities that have multi-annual capital investment programmes have developed national cost limits/norms in their sectors for various types of repeat projects. These cost limits/norms are updated at regular intervals to take account of changes that may have arisen during the intervening period and also to reflect projected construction inflation. The type of changes that can arise during the intervening period might be:

1. revision to output functional requirements due to changes in the service delivery requirements;
2. changes to quality and standard of requirements; or
3. legislative changes (e.g. VAT, environmental provisions/restrictions, fire safety requirements).

Should such changes arise in the intervening period then it may be necessary to introduce them into a project during the construction stage. The capture of cost data associated with these changes in such circumstances is very useful in determining how much the cost limit/norm should be adjusted at the next revision date to take account of these changes. Also it is important to know what particular cost holding categories have been affected and the extent to which they have been affected by the changes.

3.3 Analysis of Additional Construction Cost

Costs under examination

The additional costs under examination in this guidance note are those that are extra at project completion to the amount set out in Article 3 of the Public Works Agreement the total of which is referred to as the final outturn costs.

In order for all extra costs that arise during the construction period to be recoverable under the contracts they must be sanctioned by the Employers Representative (other than an arbitrator's award). Strict notice periods must be observed for extra money to be recovered under the contract. Failure by the Contractor to observe these notice periods will result in forfeiture of any right to recovery. Therefore, the possibility of such events arising at completion stage should normally not arise as their resolution and approval should have been dealt with during the construction period. The only exceptions where cost events may only become evident at completion stage under the Public Works Contract are in the following circumstances:

- Time over-run when an extension has not been granted and where the Employer has deducted liquidated damages for the period after the Date for Substantial Completion;
- Employer set-off where the Employer exercises the right to deduct from amounts due or likely to become due to the Contractor sums that the Contractor owes to the Employer under the contract or under any contract;
- Price Variation is permitted on a project with a duration of more than 36 months from the Designated Date in accordance the Contract, or
- A dispute where there is an Arbitration award in accordance with the contract.

Each of these circumstances is dealt with in detail in the guidance note *Public Works Contracts* (GN 1.5).

Final Cost

The final outturn costs have been defined as the summation of the initial Contract Sum as set out in Article 3 of the Public Works Contract Agreement and the sanctioned additional costs referred to above. It is important that both of these amounts are combined into an overall figure that represents the final outturn cost. However, in combining these figures consideration needs to be given:

- to integrating those cost events that are likely to repeat themselves on future projects into the appropriate standard cost holding categories established at tender cost analysis stage of the project. This is so the full cost of those cost holding categories are recorded for future reference.
- to record those cost events that are unique to a project in such a way that they are easily and separately identified in the future (if required).

3.4 Standard Approach to Cost Comparison

Purpose

It is important that cost data being analysed is captured in such a way that it is capable of being re-used by different Sponsoring Agencies responsible for delivering capital works projects. To achieve this, a standard set of rules need to be put in place regarding how the costs of works should be attributed to each cost holding category in a project.
The availability of good quality historical cost data is critical to forming a realistic estimated budget at appraisal stage on a capital project therefore it is essential that any cost analysis of outturn cost is correct and usable for future capital projects.
It may be possible, of course, for a budget of a capital project to be beyond cost parameters acquired through analysis of outturn cost on previous similar projects. To this end it is important to note that information supplied through the analysis of outturn costs is not only a review of how a project performed in financial terms but also is merely a guide when planning future projects as some projects will have specific costs that are above and beyond typical cost parameters.

Classification and Coding of Work

To facilitate the implementation of a standard approach, and to maximize the benefit, it is imperative that the measurement of works is undertaken in accordance with an agreed method of measurement that is classified and coded into standard cost holding categories, whether it is building or civil works.

The use of standard cost holding categories should be applied to all procurement types to enable cost profiles to be established and compared across the spectrum of procurement methods. In this regard Design and Build projects should require tenderers to submit a breakdown of their tender using the standard cost holding categories applicable to the project type.

Note Exceptional Costs

As mentioned previously, in a number of projects there will be instances whereby costs over and above the typical cost parameters will exist. It is therefore necessary to note the circumstances that cause such situations to arise. It is also necessary to identify separately the extra over costs associated with same.

Templates

There are two standard templates used for cost planning and control: one suitable for building projects (CO1), the other suitable for civil engineering projects (CO 2). Each form can also be used as a template for analysis of outturn costs at project review stage.

4: Other Essential Review Activities

4.1 Introduction

Introduction

This chapter covers activities (other than Performance Evaluation) that are essential to complete the Project Review on Completion.

4.2 Design Review

Design Brief

The Design Brief is the full and completed statement of the Sponsoring Agency's functional and operational requirements for a project. It defines all design requirements for a project including performance standards and quality thresholds. It is the foundation on which design will be developed and is the benchmark for measuring future design development. It is a factual record and a document of importance. It should form the basis of a post-project Design Review.

Structural Drawings / Schematics

The project handover process should ensure there are sufficiently detailed information and schematics to cover all deliverables. The Design Review should confirm:

1. That information on design is available to the client in sufficient detail to satisfy ongoing maintenance and Health and Safety standards
2. That detailed information on the design implemented corresponds to the original Design Brief requirements.

Any lack of detail should be remedied and anomalies or contradictions resolved and recorded.

Design Review

The Design Review should pay particular attention to the following project parameters and record any lessons learned from experience:

Project Parameter	Review
Scope	The scope is to be checked to confirm that there has been no significant augmentation/change in the requirements or, if there is, that it is within acceptable limits.
Fitness for Purpose	The success of the design is assessed in line with client / user requirements.
Expected functional life	The expected functional life confirmed in the Design Brief is re-examined to verify that the functional life period for the facility has not changed.
Design Defects	Any apparent defects to be examined and recorded for action, resolution or future reference.

4.3 Analysis of Additional Construction Time

Time under examination

The additional time under examination in this guidance note is the approved extra time after the Date for Substantial Completion in accordance with the Public Works Contract. In order for all extra time that arises during the construction period to be recoverable under the contract it must be sanctioned by the Employers Representative (having considered the use of the Programme Contingency) in accordance with the Contract.

The Public Works Contract requires that strict notice periods be observed for extra time to be recovered under the contract. Failure by the Contractor to observe these notice periods will result in forfeiture of any right to recovery. Therefore, the possibility of such events arising at completion stage should normally not arise as their resolution and approval should have been dealt with during the construction period. Refer to Public

This subject is dealt with in detail in the guidance note *Public Works Contracts* (GN 1.5).

Starting point

The overall time is the summation of the period for Date for Substantial Completion in accordance with the Public Works Contract, the sanctioned additional time referred to above and all other non-sanctioned time over-runs incurred during the construction period. It is important that all of these are combined into a single overall figure to represent an overall time that a project has taken to construct. This information may be useful in the planning of future projects in the following way:

- the construction period that should be included in consultants' design and construction programmes and in main contract tender documents, especially if health and safety issues have given rise to the extra time incurred; and
- the tendering of construction related-services where a period has to be set for the construction stage in compliance with the Standard Conditions of Engagement.

4.4 Value Management and Risk Management Review

Risk Management

Risk Management (RM) is an essential project management tool that is used to create the conditions for a successful project outcome. It should begin at the earliest stage in the project and continue throughout the project delivery lifecycle.

Risks are events that may or may not occur, and they must be clearly distinguished from **issues**, which represent the realisation of risks despite the best efforts undertaken by the team to prevent them. When issues do occur, the team must change its focus from prevention to damage limitation.

Both risks and issues cause project uncertainty and both need to be mitigated. It is good practice to have separate registers for risks and for issues.

Guidance on what is required to implement Risk Management successfully is contained in *Project Management* (GN1.1).

Value Management

Value management (VM) is an essential project management tool, used to create the conditions for a successful project outcome. It should begin at the earliest stage in the project and continue throughout the project lifecycle.

Effective use of value management requires a project team to consider the project and its environment in its entirety, rather than focusing strictly on technical issues. Value management contributes to achieving the best value for money.

Guidance on what is required to implement Value Management successfully is contained in *Project Management* (GN1.1).

End-of-project review

Records of all VM and RM activities throughout the project should be examined in light of the final outcome and also the Risk and Issue Registers and Risk Management Plan should be reviewed.

At this stage, uncertainties have been eliminated and assumptions have been confirmed as realistic or otherwise. Risks that had been quantified, with measures put in place to manage them, can be reassessed in light of actual events.

The objective is to recover any information that would assist in developing strategies for future projects.

Appendix: Template for End-of-Project Report Documents

Project Title

Project Description

Sanctioning Authority

Sponsoring Agency

Reference (*Tick*)

- ☐ Design Review
- ☐ Value Management Report
- ☐ Risk Management Report
- ☐ Certificates of Execution
- ☐ Definitive Project Brief.

a. Objectives of the Project

b. Purpose

c. Scope

Continued on next page

Appendix: Template for End-of-Project Report Documents, Continued

d. Project deliverables and/or outcomes

e. Performance

f. Issues

g. Governance and reporting requirements

i. Risk Management Strategies

j. Value Management Strategies

k. Project Execution Plan

Continued on next page

Appendix: Template for End-of-Project Report Documents,
Continued

l. Functional Life of Facility

m. Design Review

o. Budget /Cost Review

p. Overall Construction Time

Signed

_____ Manager of Sponsoring Agency

_____ Date